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EDITORIAL.

HON. W. J. HANNA, THE FRIEND OF THE SUFFERING.

The work which Hon. W. J. Hanna has done for hospitals, asylums, refuges, orphanages, etc., will long stand a memorial to his broad-minded policy and large ideas of the needs of these institutions.

The statutes have been amended so as to enable hospitals to raise the minimum charge. This was necessary, and Mr. Hanna saw that it was, and acted accordingly.

The Act was also changed so that a capitation of 20 cents a day is paid to hospitals by the province on such patients as do not pay more than the minimum. This has proven a great boon to the hospitals of Ontario. The old grant was a sum of \$110,000, divided among the hospitals in proportion to their poor patients. This gave each hospital much less than under the new plan.

Since these changes, the hospitals in Ontario have done much better, because they have not been so cramped for money. In these efforts he has been ably assisted by the Inspector of Hospitals, Dr. R. W. Bruce Smith.

For the care of the insane, much has been done. The asylum work of the province has been vastly improved. New institutions have been erected and others are planned. There is a careful system of nursing and the study of the insane now in operation in these institutions. In these changes, Dr. C. K. Clarke has done much valuable work.

There is also coming into existence an asylum civil service, where promotion comes to those who do good work. This is bound to yield good results.

THE NEW GENERAL HOSPITAL.

On the 11th of April, the corner stone of the new General Hospital was laid amid very auspicious circumstances.

J. W. Flavell, LL.D., said in opening, that the site, consisting of a little over 10 acres, was secured at a cost of \$609,000. The buildings are to cost \$2,000,000. Towards this the University made a grant of

\$600,000, the city gave \$400,000, and citizens have contributed \$1,000,000. There remains to be raised a further sum of \$600,000.

President Falconer stated that he was glad the University had such a large interest in the hospital. He thought the combination of the University, the Government and the people, was a most happy event.

Mayor Geary said that the city had only discharged a plain duty when it gave \$400,000. The hospital had large claims upon the city.

Sir James Whitney said that in giving aid to the new hospital, the people of Ontario concurred, and was glad to be present to bid God-speed to the promoters of this great work.

Hon. J. M. Gibson, Lieutenant-Governor, made a few remarks in which he referred to the long services of such men as Mr. John L. Blaikie, the late Mr. George Gooderham, the late W. S. Lee on the board, and to the 35 years of Dr. C. O'Reilly as Medical Superintendent. He was glad to be able to congratulate all on the progress that had been made.

The Rev. Dr. Carman and Bishop Sweeny conducted a short service of dedication.

His Excellency, Earl Grey, then made a brief, but inspiring speech. He hoped that the sum of \$600,000 still required would soon be secured; and that the hospital would enter upon its work free of debt. He referred to the splendid gifts that had been made by Mr. Cawthra Mulock, Hon. G. A. Cox, the Massey Estate, and Mr. J. C. Eaton. With the new silver trowel, his Excellency tapped the stone on its four corners, and declared it to be truly and well laid.

To all this in the name of suffering humanity we would say—the words of Ovid, *Felix faustumque sit*, happy and auspicious let it be!

THE DANGER OF SMALL-POX.

We have often pointed out that there is imminent danger of an epidemic of small-pox some day in Toronto. A few years ago the Board of Education for Toronto did away with the regulation calling for vaccination before pupils could enter school. If we remember rightly, Mr. L. S. Levee, now Chairman of the Board, took an active part in repealing the vaccination rule.

Dr. W. L. Struthers, the Chief Medical Inspector, states as follows on this subject:—

“During the last five years but few children have been vaccinated in Toronto, and I believe in the present unprotected state of our school children, we are leaving them exposed to a danger greater than the

present danger of impure water, and possibly to the horrors of the Montreal scourge of 1885. I would recommend that the Chicago procedure be adopted in Toronto."

The Chicago plan is to send a card to the parents of unvaccinated children and advise them to have the children vaccinated. Where they cannot bear the expense, the city furnishes the vaccine, and some one in the health office performs the operation.

Dr. Hastings recently said that the city was running a great risk of an outbreak of small-pox. He said:—

"Whatever smallpox Toronto has had of recent years has been mild. What I fear is that some day a virulent type of smallpox may break out here, and I would not like to be responsible for the results. There has been little vaccinating done in the city of late. The department stores insist upon their employees getting vaccinated, but no one else seems to bother."

In New York, Boston, and Philadelphia, vaccination is compulsory. The child must show a good mark before it can enter any school. A short time ago, Montreal had a smallpox scare, and, recalling its experience in 1885, decided to rigidly enforce the vaccination rule.

We are criminally stupid in this matter. We must wake up. The majority of the young people of the cities and country are unprotected.

A LARGE AMOUNT OF OPIUM CREMATED.

From the associated press despatches of 3rd April, we learn that "fifty-five thousand dollars' worth of opium was burned in the west block of the Parliament buildings at Ottawa. The opium had been seized at different parts, principally in British Columbia."

We cannot approve of this action. It was, no doubt, quite proper to seize the drug, as it was being brought into the country for improper purposes, and to be sold to smokers and users of opium. The government is justified in making every effort to curtail the use of this drug by habitues.

The burning of the opium is the part that we object to when it was legally taken by the officers of the government, we think it need not have been destroyed. It might have been given out to public institutions where the drug is required, and can be made use of by the medical staffs in a proper manner. Destruction of property is not wise, and we think that the burning of opium to the value of \$55,000 was not such an act as would commend itself to the judgment of the people, when the drug could be used to a good purpose.

If not given out to public institutions it could have been sold to the regular dealers, and the proceeds applied to the anti-tuberculosis fund, or any other worthy cause. We hope we will not hear of another such wasteful act.

BRITAIN'S DRINK BILL.

In the year 1909, the people of the British Isles spent £155,162,485 on alcoholic beverages; whereas, in 1910, the amount was £157,604,658, or an increase of £2,442,173. As the condition of the people during the year 1910 was a prosperous one, the increase was less than was expected. Some of this increase in outlay was made up by an increase in duties and excise levies.

Spirit drinking is showing a tendency to decline. In 1908 it amounted to £50,527,180, in 1909 it was reduced to £41,222,000, and in 1909 still further fell to £38,836,103. With this fall there was a corresponding ratio reduction in the number of deaths due to alcoholism and cirrhosis of the liver. During 1910 there were 536,997 more barrels of beer and 1,260,000 more gallons of wine consumed than during 1909.

During the year 1910, the cost per head was £3 9s. 3½d., or £17 6s. 5½d. per family. It is estimated that about 50 per cent. of the population drinks, and about 45 per cent. does not drink. On this basis, the expenditure per drinker would be £6 6s. England and Wales consume per head more wine and beer, and Scotland and Ireland more whiskey, than the other portions of the kingdom.

The mortality among those engaged in the liquor traffic is very high. This is especially true of diseases of the liver and alcoholism. Diseases of the liver are about 700 per cent. more frequent among those engaged in the liquor trade than throughout the general community. Among the 556,000 persons engaged in the licensed trade, at least 2,000 more persons die each year than in a similar number following ordinary employments.

The trade in Britain is dangerous in a two-fold sense, as it injures "him that gives and him that takes."

TEACH HYGIENE IN THE SCHOOLS.

Throughout our schools in all parts of the Dominion, the teaching of Hygiene should be made compulsory. There would, in this way, be spread broadcast throughout the land, a vast amount of knowledge regarding the laws of health and the prevention of disease.

There is no time in life when the mind is so receptive as in childhood. The embedding in the mind of sound views on health is as important as teaching a child how to find the cube root of a given number. It is much more interesting also to the pupil to be told how a few small objects may be carried into the lungs on a small particle of dust, and multiply in the new location, causing the disease known as consumption, than to be told how Tambourlane with his vast army overran Asia.

The total economic value of such teaching would be too vast to estimate. A better knowledge of the laws of health would not only lengthen life, but would increase its usefulness and earning capacity. The time is not very far gone into the past when the average duration of life was only 25 years in Europe. In most European countries to-day it runs from 40 to 50. This is an enormous gain. It is held by high authorities that with the present century, the average duration of life could be lengthened by 14 years. This would mean that the expectancy of life would be raised in Britain, Canada and the United States to about 64 years, instead of 50 where it averages now. This would reduce the death rate from 20 per 1,000 to about 15.6.

A child will learn with far greater interest how much air there ought to be in a room for an adult to sleep in, than the quantity of paper required to cover its walls and ceiling. The latter concerns only the outlay of a small amount of money, the former concerns its health and personal comfort.

The cry may be raised that too many subjects are now taught in the schools. This is no argument. Hygiene is vitally necessary, and must find a place, even if something else should receive less attention. "Let in more light," said the dying Goethe.

SMALLPOX AND VACCINATION.

All over Canada we are constantly reading of local epidemics of smallpox. This should not be so. But utopia is still far off. There are many who will not see, even though they have eyes, and they will not hear, even if they have ears.

For a number of years smallpox has assumed a very mild form. This has created in the minds of many, a sort of contempt for the disease. These people have not read history aright, or they would have learned that from time to time this disease, like antaems of old, touches mother earth and becomes mighty again.

In 1885, there was an epidemic of smallpox in Montreal. In that epidemic, lasting only a few months, there were 3,177 deaths. The people of Montreal on that occasion learned to their sorrow to doff their

hats to the same old giant that decimated Europe. The day is coming, assuredly coming, when the severe type will again reappear. That day may be near at hand. The malignant and haemorrhagic form will some day stalk through the land, "striking with impartial footstep at the palace gate and the cottage door."

The argument that compulsory vaccination is an interference with personal liberty is of no moment, and is not entertained in other matters of moment. Houses are quarantined when some one is ill with smallpox. The inmates are not allowed to walk abroad. All arguments are useless as against the terrible teachings of experience. Smallpox has swept over countries in the past and will do so again, unless the people avail themselves of the protection science offers.

THE PROVINCE OF QUEBEC AND TUBERCULOSIS.

The government of Quebec appointed a Royal Commission to look into and report on the ways and means of preventing tuberculosis. That Commission consists of Dr. J. George, Adami, F. G. Roddick, E. P. Lachapalle, J. J. Guerin, Jos. E. Dube, Michael J. Ahern, and some others.

The commission reported that the law should be more vigorously enforced, instruction in hygiene should be given in schools, popular instruction by the Board of Health, medical inspection of schools, the formation of dispensaries for tubercular patients, isolation of advanced cases, open air schools for weak children, treatment of curable cases by the class method, legislation to prohibit premature employment of children, regulation of hours of adult labor in factories, legislation against alcoholism, and inspection of meat and milk.

To these the commission also recommended the gradual introduction of the following: The establishment of preventariums, the erection of sanatoriums, agricultural and vacation schools, and improved conditions of dwelling houses.

The commission also suggests that the Provincial Board of Health be the central authority, and that there be a tuberculosis department under the charge of a competent medical man. Municipalities with a dispensary for tubercular patients should receive government aid. The government should take steps to ensure the medical inspection of schools. Medical inspectors should be appointed to report upon the condition of industrial establishments.

THE CANADA MEDICAL ACT AND ONTARIO UNIVERSITIES

In the amended Canada Medical we find that "No candidate shall be eligible for any examination prescribed by the council unless he is the holder of a provincial license, or unless he presents a certificate from the registrar of his own provincial medical council that he holds a medical degree accepted and approved of by the medical council of the said province."

This will prove an obstacle to the Ontario Universities with Medical Faculties. The degrees from McGill and Laval entitle the holders to practise in Quebec, and therefore holders may go direct before the examiners under the Dominion Council. So with the graduates of Dalhousie University in Halifax, and the University of Manitoba, in Winnipeg. In all these cases the student has only to secure his university degree in order to be eligible for the Dominion examining board.

In Ontario the degrees from the University of Toronto, Queen's University, New Western University, do not enable the holders to register and secure a certificate. Thus it will be that any one who studies in Ontario will be compelled to pass his university examinations, then the Ontario Council examinations, and after this the Dominion examination if he intends to practise in any province other than Ontario.

We think this is a real hardship. While we have always supported Dominion registration, we do not think the Ontario universities should be handicapped in this manner. The Ontario Medical Council should arrange with the universities in Ontario for some way of overcoming this difficulty. We should not lag behind.

 ONTARIO'S OBLIGATION TO MEDICAL EDUCATION.

Many years ago certain lands were given by the Government of Upper Canada for the maintenance of a hospital. Three or four years ago the Ontario Government granted power to the University of Toronto to aid the new General Hospital to the extent of \$600,000. This, of course, is really a provincial grant towards medical education in connection with the University of Toronto.

We have shown some time ago that when the total income of the Medical Faculty of the University of Toronto is pitted against the total disbursements it is apparent that the University is annually aiding the Medical Faculty by a large sum.

The educated doctor is for the good of the people. This education may be secured in Toronto, Kingston, or London. We think that what the Ontario Government has done for the Medical Department of the

University of Toronto places upon the government the obligation that it must assist the Medical Department of Queen's University, and also of the Western University. We are not now arguing whether it was proper to use public funds in this way. The fact that medical education has been liberally aided in connection with the University of Toronto, reduces the argument so far as Queen's and the Western Universities are concerned into a *tu quoque*.

All that is now necessary for these two universities to do in order to obtain government help is to knock at the door of the Provincial Treasury with persistency.

"MEDICAL SCHOOL AND HOSPITAL."

Such is the caption for the leading editorial in the April issue of the *Canadian Medical Association Journal*. We must dissent from much that is said therein.

The article goes on to point out that in Toronto the solution is now being worked out of the university having its own hospital. In Ontario there are only three medical schools and there are seventy-eight hospitals. It is to be inferred that in only three of these is really good work done? The medical profession throughout the country will not assent to this view.

The article then goes on to state that "it must be laid down that for a hospital to take first rank its wards must be freely open to medical students, and its staff connected with a medical school. Failing this, the hospital cannot be regarded as of the first order." This, we think, is the very essence of pure assumption. To state that all the capacity for good work is in the heads and hands of the staff of the medical college is going too far. We could point out many hospitals where the cost of maintenance is less, the average stay of patients in the ward shorter, and the death rate lower than in hospitals used for teaching, and whose staffs are connected with medical schools. This is not said in any harsh sense against the splendid work done in these institutions and by their capable staffs; for conditions may differ. Our object is to show that non-school staffs can do as good work.

Then we read "the association of a medical school with a hospital maintains that hospital at the highest level of efficiency in every respect." Not necessarily so by any means. There is no medical school in connection with St. Mary's Hospital, in Rochester, Minn. There is no medical school in Hamilton or Ottawa; and yet the hospitals in these cities are most efficient, and under the control of capable physicians and

surgeons. That hospitals in connection with medical schools are better known than others is due to the fact they are well advertised by generation after generation of medical students, by announcements of their accommodation and their staffs, and by every means that may tend to bring students to the school connected therewith. This is business, and we are not now finding any fault with it, nor with the good work done. We only wish to point out that others do good work also.

The article then goes on to express the opinion that the hospitals that do not open their doors to students lose more than they gain. It depends on the arrangements. If the school men wish to dominate the situation and take the students through the wards of all the hospitals and set aside the members of the staffs of these hospitals, we think the doors should be kept closed. If, on the other hand, the staff of the school hospital is willing to allow their students to enter the wards of the other hospitals and learn from their staffs, and compare results, we think good would result, as a healthy stimulus would be given to work. The students would soon find that all the Gamaliels were not confined to the staff of any one hospital.

Lastly we are told the hospital that does not gladly co-operate with the medical school thereby seeks to lower its rank, and will assuredly find its place in the estimation of the community taken by the hospital that does."

The medical staffs of hospitals all over are striving for good results. They are attaining these results; but those not connected with a medical school do their work quietly. They are not in the limelight.

The following table, taken from latest Ontario Hospital Report, will further show what we mean, and set out very clearly that the hospitals where teaching is done has no monopoly of good results:

Name of Hospital	Death rate	Days' stay of all patients
* Toronto General, Toronto	7.6	21.1
Grace, Toronto.....	6.0	18.5
* St. Michael's, Toronto.....	6.7	22.2
Western, Toronto	6.7	21.0
City Hospital, Hamilton.....	7.9	17.1
St. Joseph's, Hamilton	6.6	16.9
* General, Kingston.....	5.5	17.6
Hotel Dieu, Kingston.....	3.1	19.0
General Protestant, Ottawa	4.7	18.9
Roman Catholic, Ottawa.....	4.2	16.6
St. Luke's, Ottawa	3.0	17.7
* General, London.....	6.0	22.4
St. Joseph's, London.....	6.0	20.2

* Teaching conducted in the wards of those marked.

BENJAMIN MARTEN, M.D., ON GERMS.

In 1720, Dr. Benjamin Marten, of London, England, published a small book, a few copies of which still exist. The title of the book was "A New Theory of Consumptives, More Especially of a Phthisis or Consumption of the Lungs."

In speaking of consumption, he remarks: "The original and essential cause then, may be some certain species of animalcula or wonderfully minute living creatures, that by their peculiar shape, or disagreeable parts, are invincible to our nature." He speaks of this entry into the body through the air or by food, and then says, "being there deposited in a proper nidus or nest and being produced into life, coming to perfection or increasing in bigness, may by their spontaneous motion and injurious parts, cause all the disorders that have been mentioned. He then mentions the plague, venereal disease, measles, smallpox, the "common rheum" and leprosy.

He thought if he had proper glasses he could have seen these organisms. He argues that specific diseases must be due to specific causes. As scabies was carried by a small animal that could be seen, he thought syphilis might be carried by a small animal that could not be seen.

He then remarks that it may be difficult to kill in the body these small animalculae, and even if they could their evil effects might persist for a long time, as he foreshadowed the doctrine of toxins.

One hundred and fifty years had to go by before the "able hand to carry the theory much further than I have done" came in the person of Pasteur. As we read the work done by Dr. Benjamin Marten, we cannot refrain from thinking that he was gifted with a clear vision. He is now coming into his reward.

A COMING CHANGE IN MEDICAL PRACTICE.

The State is taking a hand in the conservation of life and the natural resources of the country quite differently to what it did a few years ago. This is the outcome in a large measure to what the medical profession has done in the way of urging for health boards, the prevention of disease, the erection of hospitals, etc.

It stands to the credit of the medical profession that it has taken such a keen interest in the medical inspection of schools. In all the countries where this has been adopted, the medical men were the first to take it up and urge it.

But medical inspection will fail in its ultimate good results if the inspection is not followed up by treatment. Those who are found to be

diseased and too poor to pay for treatment should receive treatment at the hands of the state. There is little good to come from finding a tubercular focus in a lung, unless something is done for the sufferer.

But it will not do to turn all this work over to the medical profession, either at their offices, or at the dispensaries and hospitals for free treatment. This treatment is a benefit to the State and should be paid for by the State. This view is being now held and widely urged by the public and the profession in several countries, especially in Britain.

The time is coming when hospital physicians and surgeons, the medical attendants on refuges, orphanages, and the poor in hospitals, etc., shall receive some public compensation for these valuable services to the public. It may be argued that this would be another burden on the tax payer. This is quite true, but the tax payers as a whole should not unload their burden on the medical profession as a class.

It is quite clear to those who are watching the trend of opinion that State medical treatment of the poor is coming at no distant date. The people of Britain last year spent \$800,000,000 in alcoholic stimulants. They can afford to pay for the medical treatment of the indigent. The medical profession renders a great service to the State, and should be paid for it as the sailor or soldier is now.

THE MEDICAL WITNESS.

This is an old topic, but one that retains its interest. The *Lancet* (London), for 11 March, 1911, deals with this question in a lengthy editorial. The opinions set forth therein are of considerable importance, and justify referring to them at this time.

The article calls attention to the unsatisfactory position which the medical witness is often called upon to fill. The judge, the magistrate, the jury, the legal counsel, they have but little knowledge of the medical points at issue, or of the medical evidence tendered to clear them up. In this way the giving of expert evidence is frequently far from a pleasing task to the doctor. To aid the court the suggestion has been made of appointing some one to assist the court.

The article agrees with the views recently expressed by Mr. Justice W. R. Riddell at the Academy of Medicine, Toronto, that it would not do to appoint crown experts and exclude the defendants from having their own independent experts. Even if the crown did appoint experts to report to the court the facts of the case, it must still be left open for the defence to put in such evidence as it deems best in its own interests. It must be that other than official experts may be called. With regard

to this view of Mr. Justice Riddell, the *Lancet* states, "His view, moreover, is a perfectly just one."

The *Lancet* thinks that the appointment of a medical assessor to advise with the judge would be useful and remarks thus: "The possible introduction of a medical assessor to advise the court where a conflict of medical evidence is expected is another matter. Presumably, if such a state of things were to be brought about, the medical assessor and the judge would determine medical questions without the aid of a jury so far as those issues were concerned, and such a system would in many ways be far more satisfactory than the present one."

The article then goes on to state that the medical assessor should be only an advisor to the Court, and that the decision should in form be that of the tribunal charged with the responsibility of the whole trial.

The great question that concerns the public is that every one must enjoy the greatest freedom possible in putting in his defence. Any other course than this would, in our judgment, give rise to ten evils for one it cured. Experts, like others, may be wrong, and crown experts might be no exception to this.

THE SUPERINTENDENT OF THE TORONTO GENERAL HOSPITAL.

The air is full of whispers that there is to be appointed a non-medical superintendent as the successor to Dr. J. N. E. Brown. We hope this is not the intention of the Board of Governors.

We believe that the interests of the hospital, the public, the patients, the house surgeons, the school of nurses, and especially the medical staff, will be best served by the appointment of an experienced and capable medical man.

THE HEALTH CARE OF SUMMER RESORTS.

There is a clear duty ahead of the Ontario Provincial Board of Health and the various local Boards of Health in the care of summer resorts.

Steps must be taken to prevent the pollution of the water supplies at these places. If this were done, there would be a marked reduction in the numbers of cases of typhoid fever throughout the province.

It is well known to the medical profession of Toronto that a very considerable percentage of the cases treated in Toronto are contracted outside of the city.

THE COMMON DRINKING CUP.

Dr. Hastings has taken a determined stand against the common drinking cup in public places. In this he will have the support of the medical profession. Looking in the leading medical journals of the day we find that the common drinking cup, like the dodo, will soon be a thing of the past. Sanitary fountains should take their place.

THE CANADIAN MEDICAL ASSOCIATION.

The programme of the meeting in Montreal on June 7th, 8th and 9th, is to hand. There are promised a number of good papers and addresses. The meeting will, no doubt, be of much interest to those who attend.

HINTS.

In case of bursitis and tendosynovitis which do not yield to ordinary treatment the possible presence of a tuberculous process should always be considered.

In children subject to laryngismus stridulus an examination will often disclose the presence of adenoids.

A 60 per cent. solution of nitrate of mercury, as recommended by Sherwill, is an excellent means of destroying small malignant growths on the face. It is to be left on for from five to twenty minutes and then neutralized with sodium bicarbonate.

In injuries of the elbow with considerable effusion, when an X-ray examination is not available, it is frequently a good plan to anesthetize the patient, forcibly flex the elbow-joint, and maintain it in this position by bandaging the wrist to the chest at the opposite sternoclavicular joint—the so-called Jones position.

In cases of whitlow in which the inflammatory process is superficial and confined to the cuticle, it is advisable to refrain from deep incision, in order to avoid extension of the infection to the subjacent parts. The small amount of pus that forms may be evacuated by shaving off the cuticle, keeping the blade of the knife flat on the surface, as advised by G. B. M. White.

ORIGINAL CONTRIBUTIONS.

WHAT WE REALLY KNOW ABOUT TUBERCULOSIS.*

By REYNOLD WEBB WILCOX, M.D., LL.D.

Formerly Professor of Medicine of the New York Post-Graduate Medical School and Hospital, Consulting Physician to St. Mark's and to the Nassau Hospitals; President of the Medical Association of the Greater City of New York.

THE three great scourges of modern civilization are undoubtedly alcohol, syphilis and tuberculosis. Alcoholism can be eradicated by intelligent legislation, a higher moral sense and scientific instruction in the schools. If it were generally appreciated that there is no ethical distinction between the saloon keeper, who is an outcast, and the manufacturer, wholesale dealer and the grocer who sells original packages, the problem would be simplified. Alcohol incapacitates each day about fifteen per cent. of the workers and is responsible for about one-half of the debt of municipalities and, if properly controlled, our taxes would be reduced at least one-fourth. Syphilis is a constant menace to the innocent as well as to the guilty. With hereditary Anglo-Saxon Phariseism, preferring to ignore that which in public one does care to recognize, this disease is likely to continue to be a wide-spread menace. So long as youthful blood runs riot and the difference between a living wage for women and her earnings are the possible price of her body, both male and female prostitution will thrive and its disastrous results extending into succeeding generations. Here again an education which educates and a moral training which measures efficiency by results, will tend to improve the human race. Tuberculosis, the least of these, however, is the popular subject of to-day, perhaps because alcohol is often a matter of deep-rooted, social habit and syphilis, as a topic for discussion is not adapted to pruders.

Nevertheless it is well that tuberculosis be a subject for discussion, even it is not the most important of the three above mentioned. But the presentation must be those of facts if it shall be productive of lasting benefit. Had your President requested me to present to you a paper on tuberculosis, it would have been promptly declined, for you would be led to expect the conventional paper of the pathologist, therapeutic nihilist or phthisiotherapist, the last possibly with some predilection for a lad or for some locality, alleged to be a health resort. When, however, the title is suggested was "What we really know about Tuberculosis," I accepted with alacrity, complimented, as the use of the personal pronoun indicated that I was one of you, and flattered withal that you should wish to know my conclusions after thirty-years of practice based upon a considerable amount of observation and in arriving at these, the use of a reasonably robust and sane intellect is assumed. And, further, in the years that have passed,

* Read before the Toronto Academy of Medicine, April 4th, 1911.

the concept of the useful physician has always been that the care of the patient before him was important, that prevention was also a subject of study, and in both these the exhibition of scientific knowledge would be incomplete without being tempered by a measurable quantity of common sense. The pathologist is of great importance and indispensable, but pathology is not all of medicine. The faddist, even if he does not contribute to the gait of nations, still has his uses, and when his suggestions have been pruned by the scientific physician, the grain of truth may germinate into fruitful accomplishment.

Tuberculosis may be defined as an infectious disease, characterized by general or local inflammatory processes resulting from the presence and growth within the organism of the tubercle bacillus. The work of Koch resulted merely in making the tubercle bacillus (1882) distinct from the tubercle which had been assumed to be characteristic of tuberculosis, an infectious disease and known as such since the days of Hippocrates. Yet in the thirty years which have elapsed, this distinction is not completely recognized for if proof were wanting, the misuse of "tubercular" when "tuberculous" is intended, is sufficient evidence. The tubercle bacillus is the essence of the definition; no bacillus, no tuberculosis. This, however, is quite another proposition from no tubercle bacillus found therefore no tuberculosis. The fallacy of the latter is readily demonstrated when the same material, particularly if it be of bovine origin, animal inoculation proves the presence of the tubercle bacillus. An explanation of this seeming paradox has recently been offered by Much, who presents a certain amount of evidence to sustain his theory. Assuming that at some stage of its development the bacillus has lost its acid-fastness the usual Ziehl technique would fail to demonstrate its presence. The ordinary Gram method seemed to stain more of the bacilli, and if the process be prolonged for hours the bacilli which hitherto had been invisible now could be demonstrated. In other words those methods which depend for their success on the acid-fastness of the bacillus fail when this property is lost. Not only were bacilli, hitherto invisible, demonstrated by this process when in their usual form, but various unfamiliar forms, as insolated, apposed or clustered granules and tiny *stäbchen* were also found. This phase of the question, second only in importance to Koch's work, seemed to explain why the bacillus is at times so elusive and assumed that in the cycle of its development, say one-third of its life history, it is not acid-fast and thus eludes detection. The phenomena of latent tuberculosis maybe contemporaneous with this non-acid-fast period. As a corollary, both germ and sperm inspection might be revived as a theory to account for the transmission of tuberculosis from the parent to progeny. If one in this connection will study the careful criticisms of Van Gieson, he will realize on the one hand that the assumption, that the

cheesy material found in tuberculous lesions is nothing but the result of coagulation necrosis, is not borne on by facts for this "avator of the invisible tubercle bacillus" shows an "amazing complexity of organic structure in the wealth of chromatin particles and of vast numbers of leucocytes in all stages of degeneration." On the other hand, acid-fast particles appear in a moderate degree of frequency in systematic sputum examinations although tubercle bacilli do not develop in appropriate culture media, nor are guinea pigs infected on inoculation. These particles, although resembling the tubercle bacillus in miniature when stained by Ziehl's method and decolorized by acid-alcohol, have been observed in various fatty foods, fatty soups, and indeed in milk, all of which are liable to contaminate sputum. While the non-visible forms of the tubercle bacillus for the past two years have been subjects for investigation, those who do not consider that the tubercle bacillus is a specific organism have also been heard and the non-existent forms of the bacillus have attracted considerable attention. While sitting upon a Leprosy Commission last year, the argument of Piffard was certainly suggestive. It is, indeed, remarkable that the morphology, and particularly the staining properties of the tubercle bacillus have not been sufficiently studied during the past thirty years to the end that the questions which are now raised cannot be definitely and decisively answered.

If then the paradox of the human tubercle bacillus still confronts us, is there any wonder that a wide divergence of opinion exists in regard to bovine, avian and piscine tubercle bacilli? Although they may be assumed to possess characteristic morphology, cultural characteristics and staining reactions, yet under proper conditions they may, and this is especially true of the bovine, develop virulent properties and thus become pathogenic to the human race. That tuberculosis is an infectious disease is readily demonstrable; it is under favorable circumstances communicable; that it is contagious in the sense that the word is commonly employed is doubtful. There is no doubt but that in this country at least, it is widely prevalent, in fact few reach advanced age without being infected if the results of careful necropsies are considered, and these show that recovery from the disease in the large majority of instances, has resulted. Von Pirquet has shown that his cutaneous tuberculin reaction is positive in the majority of subjects. As to how the infection is accomplished, doubtless at least three methods must be considered. In children, the alimentary tract offers the greater opportunity, not only on account of the habits of the child, but as well from the food and especially the debility of artificially fed children favors the infection. Bovine infection, although in small percentage is an actual danger in spite of all deductions from laboratory studies. The relative immunity of the Hebrew race is confirmatory evidence. The large mortality of children during the latter part of the first and early part of the second year is suggestive of this mode of

infection. In early adult life, infection by means of contaminated dust in homes, factories and public meeting places is the more frequent and the high mortality between the ages of twenty to thirty is doubtless due to this form of infection. The hereditary infection has been the debateable question for decades, and while possible, in frequency, cannot be comparable to the modes just mentioned. It is quite in fashion to assume that various pests, among others, the house fly, may be the carrier of the bacillus, but this is probably rare. While a nuisance is likely to have additional crimes charged to it and flies show little discrimination in objects of their attention, more care in maintaining cleanliness is demanded and there will then be fewer objects towards which a campaign of extermination may be directed. While the actual proof of the mode of infection is usually wanting, there is reasonably certain evidence as to how it is brought about. In dried sputum, especially if exposed to air and particularly to light, the bacillus soon dies. The virulence of sputum is undoubtedly greatest when it is moist. The probability rests somewhat upon the quantity of tubercle bacilli, but largely upon the soil. The rapidity of the infection seems to depend largely upon its association with pathogenic bacteria. When a mixed infection takes place in an organism with diminished resistance, the result is likely to be disastrous. The mortality in dwellers in crowded quarters is six-fold that of those who live in comfortable and capacious homes. In the former, massive infection of associated micro-organisms occurring in individuals improperly fed, herded together in filthy rooms, debilitated by excessive work and addicted to immoderate use of alcohol or other so-called stimulants are the important factors in producing this high mortality.

While the crux of the tuberculosis question is assumed to be the prevention of implantation, for without the bacillus there can be no tuberculosis, yet as a matter of fact favorable conditions must be present or the results of implantation will be insignificant. Prevention of infection is theoretically possible; that it will be an accomplished fact in our time and generation is the dream of an optimist. This means education of the masses to a degree of cleanliness, which even surgeons fail to reach. To teach a tuberculous individual of the lower orders, so that he is not a potential danger to the community is an impossibility. Let us be reasonable. The fertile soil is furnished by ignorance, laziness, love of filth, enjoyment of squalor, herding together individuals in the same race, intemperance of all sorts, vices of all description, mental, moral and physical degeneration, conditions which thrive in urban population and which are so common and wide-spread and lasting that every effort to better them is met by indifference, resentment or active rebellion. A moral, mental and physical uplift is essential and it will require a century to bring these people even to the semblance of human beings. Clean up the average

tenement house dweller, during his stay in the hospital, and he becomes dejected, mutinous and yields only to superior force. At the first opportunity he returns to his home and revels in filth. The theoretical crux is the bacillus; the real obstacle is the victim. Parks, recreation piers, free baths, entertainments, diet-kitchens, schools, dispensaries, hospitals, lectures, every possible means for social uplift are provided without stint, but are utilized by a small minority and even these few return to their accustomed surroundings, and revel in their ignorance and degradation. The slums are a drawback to material prosperity and to public morality. No philanthropic Hercules can clean those Augean Stables.

And yet the bacillus is presented as the scape-goat of the whole matter. The tuberculous patient is regarded in the same light as the leprous, thanks to the hysterical emanations from certain quarters. In fact the disease is largely acquired from ignorance of the ordinary rules of hygiene and negligence in obeying the plain laws of nature. The tuberculous are largely victims of their own folly, but blame their misfortunes upon the bacillus. The extermination of the bacillus is an idle dream and the more thoroughly the facts are appreciated, the speedier will be the deliverance, not only from the plague of the disease, but also from the pest of promoters of public hysteria and alleged philanthropy.

It would seem, that wide-spread as tuberculosis has been shown to be, an immunity could be acquired. It is probable that in civilized peoples, especially in urban communities where the disease prevails, the child is born with a certain degree of immunity. It is likely also that an immunity may be acquired during the first years of life, for it has been noted that the incidence of acute tuberculosis is lessened as the child becomes older. It has also been remarked that in the later years before puberty an infection may be recovered from, temporarily at least and the disease become latent and manifest few or no symptoms. This may also be an acquired immunity more or less permanent. Such subjects may apparently resist a second infection, or if infected the disease is likely to progress but slowly or even to become quiescent, or if later the disease advances, it may be due to the bacilli still virulent, remaining after the resistance of the organism has been diminished or destroyed in its conflict with infection. It would appear also that the primary mild infection would tend to produce a relative immunity while a virulent one would result in death. If then a secondary infection takes place, the result is likely to be one not marked by rapid or severe manifestations. On the other hand, patients who have recovered from tuberculosis are by no means immune from infection nor if infected can they reasonably, in the majority of instances, hope for a milder course of the disease. This is more particularly true of pulmonary than of glandular tuberculosis. As for active immunization in the presence of the disease, the question is by no means capable of

positive solution. Theoretically the use of tuberculin should be of great value in establishing immunity in instances of incipient disease, and in more advanced instances, it should mitigate the results of inoculation from bacilli disseminated from the primary focus. The demonstration of its value should lie in the fact, if such be established, that the disease becomes more chronic and that complications may not appear or are healed if they do occur, and that the relapses are less likely both as to the primary as well as to the secondary manifestations. As a matter of fact, such results, so marked as to be convincing are not uniformly found. Those who are the strongest advocates of this method admit the great difficulty of determining dose and interval, and even those who rely upon the opsonic index as a guide must admit that technique and personal equation practically render its aid, at best, of doubtful value. If then a passive immunity is of difficult acquisition and moderate permanence, how much less should be justly expected from an active immunity, if indeed it can be reasonably demonstrated to be possible of accomplishment.

Success in treatment depends upon early diagnosis. The closed examples of the disease are not, or are but slightly infectious. They are mostly curable by almost any rational combination of methods. Here the bacillus is of very little importance. This stage is practically pre-bacillary. If the respiratory capacity is known, a diminution of five per cent. according to Hutchinson's tables is suspicious, so also is loss of weight. The Roentgen-ray aids only so far as it demonstrates a lessened excursion of the diaphragm either uni- or bilateral. Certain physical signs determine the locus of disease weeks before an opacity is demonstrated by the fluoroscope or upon the photographic plate. These are *whispering bronchophony*, increased area of transmission of cardiac sounds, accentuated pulmonary second sound, and often disturbed rhythm of respiration. By the time that bacilli are demonstrated in the sputum, the physical signs have become gross and demonstrable even by the tyro. The tuberculin tests, if negative, are significant; if positive, they may prove too much, particularly the Von Pirquet test in children. Carefully taken thermometric observations and charted for study, are often helpful. The family history, habits of life and environment are of great importance. The symptoms must be painstakingly investigated and weighed, and the diagnosis reached by exclusion (the method taught with such marked success by Ellis). In physical diagnosis, while the value of laboratory methods must not be too unreservedly relied upon, clinical investigation by the thoroughly trained and experienced physician is of the highest importance. The time at which a reasonably positive conclusion can be reached is of the paramount value. The intuitions of the observant family physician are not to be ignored. The captious diagnosis of the narrow specialist must be guarded against, that it may not lead to a therapeutic pitfall. The

one which is by no means infrequently encountered is the gastric secretory neurosis known as hyperchlorhydria which may be treated for months by the stomach specialist, when physical signs of apical infiltration, particularly of the right side, are marked. The slight or moderate symptoms are assumed to be gastric origin, leading to a conclusion based solely upon chemical analysis of the stomach contents. This clinical fact, well known for many years to British practitioners, has apparently not attracted the attention which it deserves of the physicians of America. Referred symptoms, often misnamed reflex, are by no means uncommon, and must be traced to their place of origin.

There is probably no disease which offers such opportunity for the regular or irregular charlatan, the former known as a faddist, as this does, probably from its chronicity, variations in course of development and partly, doubtless, from the usual mental attitude of the patient. There is probably no therapeutic method or means, but that, at some time in the history of medicine, it has been presented as beneficial in the treatment or cure of tuberculosis. One meets every degree of therapeutic nihilism even to optimism in medical literature. If the despair of the dead-house is carried into the sick room, a gloomy prognosis is the rule, not realizing that the wreck and devastation of pulmonary tuberculosis as found at the necropsies of paupers is the end-all of physical degradation. Success in the treatment of tuberculosis demands that the physician shall have confidence in himself, that his knowledge is broad, that his therapeutic resources are many, that his judgment in selection and adaption of these methods and means is sound, that he realizes that often it is of more moment what sort of a man has acquired a disease, than what disease has infected a particular organism, and above all that he shall inspire the patient with confidence to the end that intelligent co-operation shall be secured and implicit obedience to instructions be obtained.

It is the therapeutic nihilist who impedes progress, not by his sins of omission, for his limit of usefulness is speedily determined by the patient who readily assumes that the nihilist is an ignoramus and fails to see the advantage of an idle spectator, no matter how great his scientific reputation may be. But the nihilist impedes progress by his captious criticisms of methods which do not appeal to his limited understanding and information and by the loud assertions based upon his own failures and the end result is a phthysio-phobia alike unreasonable and disheartening. Fear has been without doubt a great promoter of human progress, but when it becomes hysterical it does not stimulate to advance, but paralyzes all wholesome endeavor. When the phthysiotherapist goes before lay audiences and assures them that tuberculosis is incurable and that the only possibility of escaping infection is the adoption of some of his fads, or generally one of them, and the same individual before a professional

audience declares that prevention is impossible, but his personal use of some limited method is successful in the vast majority of patients, the result is to engender an unintelligent fear on the one hand, and a healthy skepticism on the other. If Boards of Health were able to inculcate a wholesome fear of the disease and to educate the masses to protect the tuberculous from others and from themselves, the results might be useful, but when, notification is assumed to have a talismanic influence upon the disease when the promulgated rules are incapable of comprehension, when the poor consumptive receives notice of what disposition is to be made of his body after death, and what is to be done to his abode after his removal, the fear engendered is not wholesome, nor does intelligence, courage and a desire to extend protection from it go with it. This perhaps explains the insignificant results of vigorous campaigns which have been carried on in various quarters. For more than sixty years the death rate from tuberculosis per ten thousand of the living has been gradually and evenly diminishing, but there is no evidence that the latter day agitation has had any influence which can be mathematically demonstrated for all that sufficient time has elapsed for such diminution to be evident if the means employed had been of avail. The campaign of education has gone on, perhaps the soil has been infertile.

Climate has been of great interest in the prophylaxis and treatment of all chronic respiratory diseases and very properly. Theoretically for tuberculosis, one which affords the maximum of sunshine and dryness of the air with a minimum of temperature change is the most desirable. The fact, however, remains that the air devoid or relatively devoid of moisture is diathermic, and this physical fact forbids a dry, and at the same time an equable climate. Further, as a dry climate is likely to obtain with a dusty atmosphere the theoretical and the practical do not coincide. Granted that the ideal is physically impossible, it is nevertheless true that there exist, localities which possess advantages which may be utilized, yet from mere weather reports, one must not decide, for beside mean temperatures and absence of humidity, many of the questions, such as suitable habitation, proper food, comfortable and congenial environment, an opportunity to practise a vocation or to indulge in legitimate distractions, or to share in a congenial sociability are always to be borne in mind. Among those of moderate means an opportunity to perform some wholly or partially remunerative labor is essential, not only for its wholesome effect on mind and body, but as well to reduce the tax which the community has to pay for the support of its defectives.

The open air treatment at present has the centre of the stage. In instances of closed disease, most remarkable results are often obtained under conditions of variegated weather which never could be dignified as climate. By the exercise of ingenuity there is probably no locality but

that this can be carried out. A roof in a city house, provided it possess a southern exposure, can be fitted up to meet requirements, and that at comparatively little expense. A bed mounted upon a carriage running upon a railway, connecting the porch and the interior of the house, obviates the inconveniences and disadvantages of sleeping out of doors. A respiratory mask charged with cotton will filter out the dust of our cities. The irritating effect of cold air upon the respiratory mucuous membrane is obviated by impregnating the cotton with a few drops of a solution composed of equal parts of chloroform, alcohol and creosote. Proper bodily warmth can be readily obtained by sleeping bags, hot water bottles and proper clothing and the practical working out of the open air treatment is successful.

Sanatoria have had a certain vogue. The work done has contributed much to our knowledge of the history of the disease. When situated in localities possessing favorable climatic conditions, a considerable degree of success is obtained. Their disadvantages have been the association of patients in varying stages of the disease; the unvarying routine of treatment and the expense which is often far from being justified by the results obtained. The treatment of the disease has been reduced to a system; the patient has received but scanty individual treatment. They are particularly necessary for tuberculous paupers. The instances of open disease are not, strictly speaking, tuberculosis. They are instances of mixed infection, and if an adjective is employed the condition should be designated tuberculous septicæmia. The well-to-do should be treated in their homes, and at the care of their own physician, for no specialist will give proper attention to detail, nor inspire the courage to wage a desperate battle with serious disease. The poor are best treated in general hospitals for which, as Hatfield has pointed out, there is practically sufficient room. The experience of the Brompton Hospital even in the pre-antiseptic days, shows that there is no danger to the attendants. Now there is still less under modern precautions. Besides the younger practitioner would thus have an opportunity of learning something of the disease and would cease to be as eager to remove the patient from him and his home as he seems to be at present. If the instances of open disease were thus treated, the limitation of an infection would be greater than under present conditions. This class of patient seems to be ignored in all humanitarian work. The benefit to the patient and at less cost and diminished danger to the community are certainly marked. The advantage to the profession in acquiring knowledge of treatment would end in a proper estimation of the ridiculous if not baneful statements of interested people who thrive on the exploitation of philanthropy.

Feeding a patient suffering from tuberculosis is a matter for serious consideration. The lavage-gavage method presents little difficulty in execution. The exclusively meat or milk dietary often produces no marked

improvement in morbid conditions, save in exceptional instances. There is no particular difficulty in practising gavage. The food is prepared as follows: Lean meat from which all the tendon and gristle and as much of the fat as is possible have been removed to be used. The meat is to be finely chopped and dried in an oven at 150 degrees F., until it has become absolutely dry. The oven temperature is now raised to 170 degrees F., and the powdered meat allowed to remain for several hours. It is then ground in a mortar and sifted; six pounds of raw meat thus treated will furnish about one pound of beef powder; after cocanization of the larynx, if necessary, the Debove tube is passed; the stomach is washed out with a pint of artificial Vichy, and the patient is fed by pouring through the tube three-fourths of a pound of the beef powder to which three times as much milk has been added. At first such a meal should be given twice daily, and the amount gradually increased until the patient takes from one to two pounds of the powder, and four or five pints of milk each day. If there is difficulty in digestion, the milk may be omitted and a little dilute hydrochloric acid with sufficient water added to the meat powder. Two facts express one most forcibly, vomiting after gavage is practically unknown, in spite of excessive coughing, and when tuberculous laryngitis has supervened, it is the only method whereby a patient can be fed. Its employment is reserved solely for these unfortunate sufferers.

In general, a mixed diet is advisable, regulating the quantities of proteids, fats and carbohydrates so that the diet shall be well balanced. The most feasible plan is the administration of smaller meals of increased number and making one series of meals mostly of proteids and the other of carbohydrates. The plan usually employed is as follows: The first meal should be at about seven in the morning when the patient takes a glass of warm (not hot) milk, containing a tablespoonful of strong coffee, made according to the French method, or if the previous night has been an exhausting one, a dessertspoonful of rum or other spirit, which has previously been mixed with enough water to reduce its alcohol content to not more than five per cent., otherwise the alcohol will coagulate the albumin of the milk and render it less digestible. Breakfast is taken at nine. The patient is allowed eggs, cooked in any way except by frying, although if frying is preferred, it may be done in the Italian method, *i. e.*, in olive oil; bread is also permitted, and marmalade if the patient likes; toasted bread or good rolls (not hot) are allowable, and bread and butter, milk and coffee may be used for variety. About eleven o'clock the patient has the second breakfast which usually consists of a little cocoa, from which the fat has been removed or, if not removed, has been pre-digested. The patient may also have coffee, a little bread, soup or a beef extract: an egg-nog is permissible, and kumyss or matzoon is often acceptable.

The dinner should be served about one o'clock in the afternoon, and should be the meal of the day. The patients may have any kind of meat they relish except salted meat, but it must not be fried. Potatoes, fresh vegetables, fruits and puddings may also be allowed; coffee, tea or possibly a bottle of light beer may be added. About four o'clock in the afternoon, they should have a little meat extract with toasted bread, and about five, a little more should be given. About seven in the evening comes supper, consisting chiefly of farinaceous food; various jellies, beef extracts and gruels are useful at this time. If the patient is awake at eleven o'clock, a cup of milk or hot soup may act as an hypnotic. Patients who exhibit a hectic temperature, instances of secondary infection, are better without alcohol after the one o'clock dinner, because the alcohol seems to increase the fever. With the starchy foods often these intestinal disturbances result; malt extracts, administered contemporaneously, are useful, for Kellogg has shown that starch conversion into dextrin and maltose goes on in the stomach. The liquid malt extracts usually contain sufficient alcohol to inhibit this conversion, and also the acids generated in the process of fermentation, delay or prevent the action of diastase. The night sweating is obviated by a glass of milk in whatever form may be advantageous take at the period of greatest exhaustion. The various oils are classed as foods and carefully regulated as such, and the effect painstakingly observed. The patient's taste and his conclusions from previous experiments are patiently considered; these details should not be neglected; alcohol is sparingly employed and limited in quantity and kind.

Physical exercise has important uses. In the first place respiratory exercises in the early stages of the disease can be adjusted to the special needs of the individual, and if kept within limits of fatigue, will aid greatly in affecting a permanent cure. Among the laboring classes work, within the bounds of capacity, which is of a productive character is doubly beneficial, and this has been demonstrated by the better results obtained in prison camps in Texas as compared with those of the tuberculosis colony in the prisons of New York; in both of these states most intelligent work has been done for the treatment of tuberculous convicts with beneficial results, not only to the prisoners themselves, but in protecting those with whom they come in contact after their release.

As for hydrotherapy, electricity in its various forms, the various lights and rays and other allied physical agencies, a considerable experience and a considerably larger observation of the work of special laborers in these fields has led to the belief that the meagre results obtained do not compensate for the efforts put forth in securing them.

A widely distributed official document, which is often quoted with approval, contains the following statement: "Consumptives are warned against the many widely advertised cures, specific and special methods of

treatment of consumption. No cure can be expected from any kind of medicine or method, except the regularly accepted treatment, which depends upon pure air and out-door life and nourishing food." This last statement is of course untrue. There is, however, one remedy which has been in use for seventy years in the treatment of pulmonary tuberculosis and has never been abandoned. This is creosote, irritant to the stomach and kidneys, it is true, but nevertheless its use has been persisted in. For the past fifteen years creosote carbonate has been substituted, for it can be given in drachm doses without harm to the digestive or urinary system. Probably no one has the hardihood to claim that this remedy has a direct action upon the bacillus, but there is no doubt but that it renders the soil infertile, and certainly the amount of expectoration in instances of open disease diminish under its influence. Various volatile oils have the same effect in greater or less degree. The one which has been used with better results is the substance obtained from the *melaleuca viridiflora* which can be administered in from one-half to one drachm doses without untoward effects. The better plan is undoubtedly to administer it in glutinules which pass through the stomach unchanged, to be absorbed from the intestinal tract, carried by way of the portal system to the liver and later by way of the right heart to be eliminated by the respiratory mucous membrane. In the instances of closed disease, the hypophosphites in improving nutrition certainly have their place. Much is said about Churchill's method of their administration. One who studies the original papers will find that this is not the compound syrup, so often met with in the pharmacopœias and other literature. The proper administration is that of a single salt; the sodium in early stages; the calcium later, provided it does not provoke cough or too suddenly check expectoration, in which case the sodium salt is resumed. It goes without saying that these remedies should be chemically pure and especially free of alkali or alkaline carbonates, with which most commercial preparations are contaminated, should be absent, else serious digestive disturbances are likely to ensue.

Mercury succinimide in dose of one-fifth of a grain given hypodermatically every second day for two months, followed by a course of potassium iodide, one-half drachm each day for two weeks, then rest for a week, and repeat the mercurial salt in small doses, has attracted within recent years considerable attention. Careful observations would seem to indicate, however, that although some patients are apparently benefited, the value of this treatment has not been thoroughly established.

There is probably no remedy which has not been at some time or another been employed in the treatment of tuberculosis, and there are doubtless, patients and conditions of the disease in which a very considerable number of these substances might find an appropriate, even if tem-

porary, place. There is one fact, however, that impresses itself upon one who has systematically studied the treatment of tuberculosis, especially its pulmonary manifestations, and it is this; there is no one way by which to treat the disease. In an infection marked by such broad variations in course, severity and results, each instance of the disease and each individual must be the subject of thorough study and by persistent and watchful attention and by selection and combination of the methods and means of established repute, both physical and pharmacal, a large degree of success can be obtained. If one takes as his standard the same degree of attention which is commonly accorded to enteric fever and attacks the tuberculosis with earnestness and hopefulness, as his skill becomes greater he will find his confidence and his ability to produce benefit, correspondingly increase. In the end he will find that practically all of the instances of closed disease are not only curable, but actually cured, and of the open instances a majority are either arrested or, so far as the patient understands it, end in recovery. These results can only be obtained when intelligent and complete co-operation of the patient is possible, and this implies adequate means to meet all demands and the broadest experience, most earnest study and unremitting attention of the part of the physician in the presence of an infectious disease. The faddist, or one who would adopt a Micawber plan or absence of plan of treatment is useless, and indeed worse than useless.

What, then, do we really know about tuberculosis?

1. It is an infectious disease which is only possible when a suitable soil is present upon which the bacillus can be successfully implanted.

2. Tuberculosis of itself is rarely fatal; resulting secondary infections terminating in tuberculosis septicæmia are of grave import.

3. Phthisiophobia, which is intelligent and productive, is to be encouraged; if it is based upon ignorance or sordid motives it is to be severely dealt with by an enlightened profession.

4. No single method means or plan is adapted to all patients afflicted with tuberculosis; individualization of disease and victim is imperative.

5. The physician who will obtain the best results is the one who will supplement a broad knowledge of the patient and the disease by an intelligent, diligent and confident treatment.

6. Real advances in medicines are never based upon hysterical, partisan or selfish movements; they come from intelligent, scientific and conscientious observations and logical deductions therefrom.

New York City, 679 Madison Avenue, March 29, 1911.

DISCUSSION.

Dr. W. B. Kendall said he had listened with pleasure and interest to the paper. The subject is a broad one and we must aim at finding out

what we do not know. A man is only as strong as his tissues and we must try to produce immunity. The Jew is said to come first and the Anglo-Saxon next. The negro is very low in his resistance to the tubercle bacillus.

Immunity may be by the patient or by artificial means, as the tuberculines, the serums and the antitoxins. He thought that cases could be better treated in institutions than at home. In some cases patients are much more ostracised at home than in a Sanatorium. He did not believe in over-feeding. The same purposes could be secured to a great extent by smaller meals oftener given. The mercurial succinimide had not here given very good results.

Dr. Dobie thought that much could be done by teaching children. They can be easily taught, and in this way soon learn to do what is right in the care of their health and the prevention of disease. They readily learn the laws of hygiene. This is the most important point in the management of the disease.

Dr. Strathy thought the Jews of Toronto did not show a high resistance. At least, this was the result of hospital experience here.

Dr. A. McPhedran said the paper was good and the conclusions sound. He agreed that the treatment of the patient was the true note rather than the treatment of the disease.

We must have regard to the conditions that cause or prevent infection. The home treatment suited some and the Sanatorium others. This depended on the home and the individual. The Sanatorium is good, but it is not a specific. When everything is good at home it was the best place. The Sanatorium has done good in advocating the rules of health.

Dr. Caulfield congratulated the author of the paper, as the statements were sound. He agreed that the resistance of the patient was of more importance than the bacilli. The number of bacilli was important and the secondary infections were of great importance. The tubercle bacillus was not the sole factor. The incipient cases were important. In some instances cures readily came in these cases. He was glad that the author of the paper had said there was no specific treatment, and also that he had not said there was any serum treatment.

Dr. H. M. Parsons congratulated the idea that we must treat the patient and not the disease. He did not think the Jews were specially immune. He spoke very highly of the work of Sanatoria in the case of the poor. In the well-to-do this was not so important. The Sanatorium taught good rules of living and the patient was inspired with hope. In the case of children we meet with the earliest instances of infection. In the adult the conditions are often the result of repeated infections. He endorsed the paper.

Dr. J. H. Elliott said that the disease was met with in the rich as often as among the poor. The percentage is about the same in both classes. This was the outcome of his own study. The early diagnosis was all important. It was necessary to be careful and try to detect the disease early. In this way we could do more for their cure. He said that 40 per cent. of deaths were due to this disease. He felt that these patients might be treated in general hospitals. He said nurses were even afraid to nurse consumptives. This ought not to be the case, and he was strongly of the opinion that all general hospitals should admit these cases. There were Sanatoria for about 2 per cent. of the cases. He held that these cases could be well treated at home. There was no specific treatment. There were some broad general rules, but we must look after the patient on general principles and in detail for each case.

Dr. G. D. Porter said it was widespread and it was insidious. He said we should regard all cases of cough, anaemia, loss of strength, etc., in weak people as being tuberculosis until we found out that such was not the case. The Sanatorium was the outcome of the neglect of the general hospitals. We have now 12 in Ontario. They are greatly needed and are doing much good. There may be some hysterical and foolish fear, yet good had come of what had been said. He appreciated the paper.

Dr. J. W. S. McCullough said he knew Dr. Wilcox well and had followed his writings. In one town a movement to found a Sanatorium had been defeated by the trustees of the hospital. In another town a Sanatorium had been prevented by the fear that it might depreciate the value of a certain college property.

Dr. N. A. Powell said that Mr. Gage had offered \$25,000 to Toronto for a Sanatorium if the city would maintain it. This was not taken up. The sum now invested in this Province in Sanatoria was \$400,000. He thought that before three years more had passed there would be \$1,000,000 so expended. He agreed that home treatment was good. But few homes were ideal. The treatment must never forget the individuality of the patient. The medical profession had not always done their duty in recognizing the cases early enough. This should not be, and the profession must remedy this fault.

Dr. Mulien was afraid that in Sanatorium work there was too much tendency to make the patient feel he was getting all the good that could be secured. He felt that cases should be watched after they left the Sanatorium. It was wrong to lead patients to think they were cured.

Dr. John Hunter said that in fifteen years he had not known a single death in the Orphans' Home. The children had been given lots of milk and no case of bovine tuberculosis infection had been observed.

Hon. John Charlton said that doctors on this occasion had agreed. He would ask the Medical men to impress the legislators of this country with the importance of the disease. If a hog is taken ill, with tuberculosis, the Government will send a man to look after the animal. If a man or woman is taken ill, the Government will do nothing. The Ontario Government will give \$3.00 a week when the patients do not pay more than \$4.00 a week. Medical men should use their influence to enthruse the public with a desire to help.

Dr. John Ferguson said that about \$50,000,000 annually was lost to Canada in deaths and time due to tuberculosis.

Dr. R. W. Wilcox, in reply said, he appreciated the way in which the paper had been received. He wished to emphasize the personal element in the patient. Some have greater resistance. He again emphasized that home treatment was very good, and he held that work was good as shown in the case of convicts. Preventorium work is all right, but may cause too great fear. Wholesome fear was good. The kind of disease, the kind of patient, and the kind of physician counted for much. Canada had sent to his classes fine students. The soil is very important. All things that go with filth, such as drink, overwork, bad air, had to be considered. The Jewish race has a relative immunity. A dark haired race is prone to the disease and is hard to cure. The dark haired race of Jewish origin, however, have a relative immunity. In teaching of medicine we wish the acute diseases, and have lost sight of the advanced and chronic cases. We should plead for him.

The scrutineers then reported that the following fellows had been elected to the Committee on nominations: Graham Chambers, C. L. Starr, H. A. Bruce, A. McPhedran, W. A. Young, A. Baines, F. N. G. Starr, W. McKeown, N. A. Powell, H. M. Malloch, A. A. Macdonald, H. J. Hamilton, J. Ferguson, and J. T. Fotheringham. Over eighty fellows were present. The meeting then adjourned.

OBSERVATIONS ON PHYSIOLOGICAL ALBUMINURIA.

By GRAHAM CHAMBERS, B.A., M.B.,

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HISTORICAL SKETCH.

IN studying the subject of albuminuria one can with advantage divide the time since 1827, the year in which Richard Bright demonstrated a relationship of albuminuria to disease of the kidney into two periods. In the first fifty years, i. e., 1827 to 1876-77, the excretion of albumin in the urine was significant of disease of the kidney. The second period began in 1876-

77, with the reports on albuminuria of Moxon, Pavy, von Leube and others. Moxon was probably the first to call attention to the possible existence of albuminuria without organic disease of the kidney. In 1876 he described two forms of latent albuminuria, which he designated the albuminuria of adolescence, and intermittent albuminuria. The first type occurred in youths and young men who presented no evidence of organic disease of the kidney except that obtained from the urinary examination, although the patient sometimes complained of languidness, headache, and slight indigestion. In the second type the patients presented symptoms very similar to those of the first, but the albuminuria showed an intermittent course, no albumin being passed on rising after a night's rest. This was the first report which suggested that albuminuria might depend upon posture of the body, and Moxon deserves credit for the observation. This report was soon followed by another which left no doubt that albuminuria could exist without disease of the kidney. I refer to the memorable observations of von Leube in 1877, on the albuminuria in healthy people, especially in persons after much physical exercise, as in the case of soldiers after a long march, in the urine of whom albumin was detected in 16 per cent. of cases. This was the beginning of a new era in the study of disease of the kidney. Albuminuria was no longer accepted as a pathognomonic sign of kidney disease. Physiological, as well as pathological, albuminuria was recognized.

The reports of Moxon and von Leube were soon followed by others, which threw fresh light on the subject.

In 1885 Pavy reported several cases of albuminuria of an intermittent type in apparently healthy persons. In these the albuminuria was absent while the patients were in bed, but appeared immediately on rising. He found no casts in the urine, but the sediments always contained crystals of calcium oxalate. Pavy called attention to an unusual kind of albumin in the urines of these patients. He found that part of the albumin was precipitated by acetic acid, a character which is now recognized as essential in the diagnosis of orthostatic albuminuria. Pavy named the condition cyclic albuminuria.

In 1890, Heubner contributed a very valuable monograph on the subject of the physiological albuminuria of children and young adults, which had hitherto been described as intermittent albuminuria, cyclic albuminuria, or albuminuria of adolescence. He suggested the name orthostatic albuminuria inasmuch as the vertical position appeared to be an important factor in its genesis.

KINDS OF PHYSIOLOGICAL ALBUMINURIA.

In healthy adults one cannot as a rule detect albumin in the urine by means of nitric acid, acetic acid and potassium ferrocyanide, or other com-

mon test, but if one makes use of a more delicate method of testing, (evaporation, etc.,) albumin is always found to be a constituent of urine. Again, by the ordinary clinical tests one can almost always detect albumin in the urine of the new-born for a few days after birth, and in older children it is not unusual to find albuminuria (orthostatic) apparently due to a change from the recumbent to the upright position. These are all physiological processes and some physicians such as Langstein restrict the term physiological albuminuria to these excretions of albumin. On the other hand, there are others, such as von Leube and Heubner, who include under physiological albuminuria, not only the albuminurias referred to above, but also the transient excretions of albumin caused by muscular exertion, general convulsion, cold baths, etc. With this conception one may recognize four kinds of physiological albuminuria:

- (1) Albuminuria of the new-born.
- (2) Orthostatic albuminuria. This occurs in children and young adults.
- (3) Albuminuria following physical exertion.
- (4) Physiological albuminuria, which cannot be detected by the ordinary clinical tests.

In this paper I wish to report some observations on the first three kinds of physiological albuminuria. However, before entering on this subject I wish to draw attention to one or two points in the testing for albumin in the urine.

The term albuminuria is applied to the presence of any protein in the urine. In the albuminuria of nephritis and other organic affections of the kidney serum albumin and serum globulin are the principal proteins present in the urine. In addition we may find, especially in some kinds of acute nephritis, and amyloid kidney, a protein precipitated by acetic acid, and insoluble in excess of this reagent. In testing for this protein, which is usually called nucleo-albumin, acetic acid is added to the urine and, then, the mixture is shaken thoroughly for a few minutes. This is diluted with about three parts of water, when a precipitate will indicate the presence of "nucleo-albumin." The dilution with water is necessary to prevent the precipitation of uric acid in highly concentrated urines. In testing for albumin by the nitric acid test one may also obtain indications of "nucleo-albumin." If one, by means of a pipette, carefully runs the nitric acid beneath the urine, serum-albumin and serum-globulin are precipitated at the surface of contact. With "nucleo-albumin" it is different. The precipitate does not form in immediate contact with the acid, but appears to rise as a cloud in the urine above the nitric acid. In a few minutes the lower part of this dissolves and the precipitate is separated from the nitric acid by a clear space. These phenomena are due to the fact that "nucleo-albumin" gives a precipitate with nitric acid, which is soluble in excess of

the reagent. Urates in concentrated urines may give a similar reaction. However, the precipitate formed by reaction is readily dissolved by heat, which distinguishes it from the "nucleo-albumin." Again, dilution of the urine with three or four parts of water, will prevent the precipitation of urates.

I have given special attention to "nucleo-albumin" because it is an important constituent of all forms of physiological albuminuria, including the albuminuria produced by exertion, cold, general convulsions, etc. According to Mörner it is the only albumin present in the latent excretion of albumin in healthy persons. In some cases of orthostatic albuminuria, also, it alone is present.

PHYSIOLOGICAL ALBUMINURIA OF THE NEW-BORN.

As to the frequency of albuminuria in the newly-born infant, writers on the subject are not all in accord. Some state that it is always present for a few days after birth; others, that it is a common but not a constant character. In our examinations, which unfortunately were limited to the urines of four infants aged 10, 12, 20 and 24 days, "nucleo-albumin" was present in all, but we were unable to detect by the ordinary clinical tests any serum albumin or serum globulin. In the sediments of two of the specimens, uric acid and calcium oxalate crystals were present. Casts were not found in any specimen.

PHYSIOLOGICAL ALBUMINURIA OF CHILDREN AND YOUNG ADULTS. (ORTHOSTATIC ALBUMINURIA.)

In this type of albuminuria the vertical posture is an important if not an essential etiological factor, hence the condition is usually designated orthostatic albuminuria.

Symptomatology.—The outstanding symptom is the character of the urine which gave rise to the name orthostatic albuminuria. The excretion of albumin disappears as soon as the patient lies down, but reappears on rising to the vertical position. In some cases again, especially in those occurring between the ages of thirteen and twenty years, and named by Moxon, and von Leube albuminuria of adolescence, the excretion of albumin varies during the day, appearing after rising, reaching its maximum in the early afternoon and tending to disappear in the evening. The quantity of urine is, as a rule, less during the day than at night, whereas the sedimentation varies in the opposite direction. The kinds of protein in the urine are "nucleo-albumin," serum albumin and serum globulin. The first, i. e., "nucleo-albumin," is always present, and in slight cases it appears to be the only protein present. When the protein content is considerable, serum albumin and serum globulin are

always present in addition to the "nucleo-albumin," but the latter is always an important constituent, which character is essential in the diagnosis of the affection.

With regard to the presence of casts in cases of orthostatic albuminuria there is a difference of opinion. Some physicians exclude from the orthostatic group all cases in which casts are present, while others believe that casts, especially hyaline, may occasionally be found. The question is a very difficult one to settle. Theoretical considerations favor the former view, but clinical experience, I think, the latter. According to my observations, casts are rarely found in cases in which the protein content is wholly or almost wholly "nucleo-albumin." When, however, in addition to this protein, serum albumin and serum globulin are present in considerable proportion, a few hyaline casts are frequently present. I am aware that many physicians are opposed to this view. They look upon the presence of casts in the urine as a sign of definite lesion in the kidney. They call attention to the following facts:

(a) In nephritis, especially the parenchymatous variety, the vertical position frequently augments the excretion of albumin.

(b) In cases of orthostatic albuminuria a history of scarlet fever, diphtheria or other infection can frequently be obtained.

(c) In convalescence from acute nephritis a condition is sometimes present almost indistinguishable from orthostatic albuminuria.

In answer to these arguments, I admit that there are cases of organic disease of the kidney almost indistinguishable from the condition known as orthostatic albuminuria, but the presence or absence of casts is no exclusive criterion to depend upon in their differentiation. One has to carefully study the symptoms as a whole, taking into consideration the age of the patient, the characters of the albuminuria, the kind of casts as well as the constancy of their formation, renal efficiency and other signs and symptoms which I shall mention below.

In favor of the view that casts may be present in the urines of orthostatics I mention the fact that in the so-called albuminuria of adolescence, which is no doubt a variety of orthostatic albuminuria, it is not unusual to occasionally find casts. Moreover, these patients, if not carried off by some other affection, invariably recover from the urinary disturbance. In my experience I have known several cases of this kind.

A character of the urine of orthostatic albuminuria, which is of special interest is the almost constant presence of crystals of calcium oxalate. From the frequency of its occurrence some have suggested that it bears some relation to the excretion of albumin. It should be remembered, however, that crystals of oxalate are very common in the sediment of the urines of children, which lessens the value of the sign in orthostatic albuminuria.

With the exception of the character of the urine the symptomatology of orthostatic albuminuria is indefinite. One cannot construct a symptom complex of much value in diagnosis. Some patients look healthy and have no complaints; others have a healthy appearance, but suffer from pain in back, headache and flushing of the face; others again look pale and suffer from headache, lassitude, loss of appetite, etc. Sometimes the appearance of the patients suggest tuberculosis, and, indeed, a history of scrofula is not uncommon.

A sign of orthostatic albuminuria which has received much attention of late is lordosis. Yehle, in 1908, called attention to this symptom, and advanced the theory that orthostatic albuminuria was due to lordosis; and he suggested the name lordotic albuminuria in place of orthostatic albuminuria. Yehle's work has not been fully confirmed. There is no doubt that lordosis is present in some cases of orthostatic albuminuria, but in many it is absent. I shall refer again to this sign under etiology.

Other symptoms of value are those of the cardio-vascular system: The systolic blood pressure is variable. In one of my patients it was 68 mm. lying down, and 70 standing; in another, 98 lying down, and 95 standing. In some cases there appears dilatation and hypertrophy of the heart. Arrhythmia, dirotism and palpitation may also be present.

Diagnosis.—This requires careful and prolonged study. One should never make a definite diagnosis after one examination. The age of the patient, the character of the urine, the condition of the cardio-vascular system, the blood pressure and the presence or absence of lordosis should be especially determined. One should be especially careful to exclude the last phase of acute nephritis, and interstitial nephritis.

The principal points in the diagnosis may be summarized as follows:

- (1) The age is usually under twenty-five.
- (2) The albuminuria is usually only present while the patient is in the vertical position.
- (3) The albuminuria may intermit for weeks or months.
- (4) The so-called nucleo-albumin, precipitated by acetic acid, is an important constituent of the urine. In mild cases it alone may be present.
- (5) Casts are usually absent, although their presence, especially hyaline, does not exclude orthostatic albuminuria.
- (6) Hypertrophy of the left ventricle associated with markedly increased blood pressure, excludes as a rule orthostatic albuminuria.
- (7) Lordosis is sometimes present.
- (8) When lordosis is present, its correction by means of a splint may cause the albuminuria to disappear.
- (9) The efficiency of the kidneys is normal.

The greatest difficulty is experience in differentiating orthostatic albuminuria from a phase of nephritis characterized by albuminuria of the

orthostatic type. In this latter condition the kidneys may be functionally efficient and the cardio-vascular system normal. One has to depend upon the history of the case and the urinary findings.

Etiology.—Concerning the genesis of the affection there is a variety of theories. Some of the agents which have been mentioned as etiological factors are the following:

- (1) Vascular disturbances.
- (2) Lordosis, probably by producing vascular disturbances.
- (3) Movable kidney, by producing vascular disturbance.
- (4) Disturbance of metabolism.
- (5) Diminished coagulability of the blood.

Vascular Disturbances.—It is well known that vascular disturbances may produce albuminuria. The albuminurias following the application of cold to the skin, as in the case of a cold bath, and, possibly, that following a general convulsion are probably due to increased blood pressure. Again, albuminuria may be produced by compression (not closure of) the renal veins. These are well-known facts which many have attempted to make use of in solving the etiology in orthostatic albuminuria. Some have suggested that increased blood pressure is the cause. This has been shown to be erroneous, because in the great majority of cases the blood pressure is not increased but decreased. In our experiments we took the blood pressure of forty boys between the ages of six and fourteen and found very little variation with changes of posture. In one case alone there was a marked rise, from 78 to 95, in changing from the recumbent to the vertical position. Again, some such as Edel, Loeb and Pelnar attribute orthostatic albuminuria to low blood pressure and to slowing of the renal circulation. This theory seems to me to be more in accord with clinical facts.

When a person rises from the recumbent to the upright posture, the obstruction to the flow of blood from the kidneys is increased, first on account of changed hydrodynamic conditions, and secondly because the intra-abdominal tension is increased, which compresses the renal veins and inferior vena cava. This would lead to slowing of the circulation of the blood through the kidney and would account for the diminution in the quantity of urine in orthostatics when the position is changed from the horizontal to the vertical one. However, it does not fully account for the albuminuria. In passive congestion of the kidneys due to cardiac insufficiency the urinary findings are as a rule quite different from those of orthostatic albuminuria. It would appear therefore that there is a cause other than passive congestion in cases of this kind.

Possibly in persons with orthostatic albuminuria there is a peculiar perviousness of the renal epithelia to proteins, in presence of slow renal circulation. It should be remembered that the "nucleo-albumin" of

normal urine probably comes from the blood. In the adult, so little protein filters through the renal epithelia that it cannot, as a rule, be detected by the ordinary clinical tests. In children, it is different, because "nucleo-albumin" can be detected by ordinary tests in the urine in a considerable proportion of cases. It is acknowledged to be a very common if not a constant character in the urine of the new-born, and in older children we have found it a very common finding. In the urines of fifty children, between the ages of two and five, of the Children's Home, House of Providence, we were able to detect "nucleo-albumin" by the acetic acid test in over fifty per cent. of cases. In another series of twenty cases of boys, of the Boys' Home, Toronto, between the ages of six and fourteen "nucleo-albumin" was only found in two cases, i. e., 10 per cent. From these data we may draw the inference that the younger the child the more pervious the kidney to "nucleo-protein" and possibly to other proteins. If this be true, inasmuch as orthostatic albuminuria is an affection of childhood and adolescence, one should expect that an excessive permeability of the kidneys to be a factor in its etiology.

Lordosis.—Reference has already been made to this causative agent under symptomatology. Yehle was led to advance the theory that lordosis was the cause of orthostatic albuminuria, principally from the following observations:

1. The presence of lordosis in some cases of orthostatic albuminuria.
2. The correction of the lordosis by means of a splint checked the albuminuria.
3. Artificial lordosis produced while the patient was in bed was followed by excretion of albumin in the urine.

Yehle could not clearly explain how lordosis produced the albuminuria, but suggested that it might be due to compression of the renal veins and inferior vena cava by the bending forward of the back which would result in venous stasis in the kidneys. Yehle's observations were confirmed by Bruck, who added further evidence in favor of the theory. He was able to produce albuminuria in a healthy adult by means of lordosis artificially produced.

In our investigation we repeated the experiments of Bruck, but were only able to produce albuminuria in one out of six boys examined. The boys were between 10 and 13 years of age. The albumin excreted was principally nucleo-albumin. No casts were found.

Clinical experience appears, I think, to show that lordosis is a cause, but not the only cause of orthostatic albuminuria. It is present in some cases and absent in others. In children under ten years, according to my experience, lordosis is usually absent.

The question which is difficult to decide is: How does lordosis produce albuminuria? We have the theory of Yehle, which to me does not

appear satisfactory. Nothmann gives another explanation: He made sections of the body, fixed by freezing in a position of lordosis and found that the kidneys were rotated in their vertical axes so that their median sides were forced forwards. During life this would tend to stretch and compress the renal veins.

Diminished Coagulability of the Blood.—Wright and Ross, in 1905, observed a diminution in the coagulability of the blood in several cases of orthostatic albuminuria, and found that in these the administration of calcium salts almost immediately stopped the excretion of albumin. From these results they were induced to advance the theory that physiological albuminuria was caused by diminished coagulability of the blood associated with increased pressure in the renal capillaries, both of which dispose to transudate of lymph into the renal tubules.

These observations regarding the action of calcium salts have not been confirmed. In three cases of orthostatic albuminuria under my care the administration of calcium salts was without any immediate effect. However, I should not like to state that the exhibition of preparations of calcium is of no value in orthostatic albuminuria because calcium salts are mineral food stuffs and might be of much value in some cases, acting in a manner quite distinct from their action on the blood.

Movable Kidney.—In the type of orthostatic albuminuria, known as albuminuria of adolescence movable kidney is a common sign, and it has been suggested that the abnormal condition of the kidney may be the cause of the excretion of albumin in the urine. This explanation does not seem probable to me, because, first, movable kidney is not always present in cases of orthostatic albuminuria and, secondly, in most cases of movable kidney albuminuria is absent.

Disturbance of Metabolism.—From the fact that calcium oxalates crystals are usually found in the sediment of cases of orthostatic albuminuria some have advocated the view that a disturbance of metabolism is an etiological factor.

The relation of oxaluria to metabolic processes is not definitely known. When the oxaluria is not due to ingestion of certain kinds of foods such as asparagus, spinach, etc., its presence probably indicates, incomplete metabolism of uric acid or sugar, or possibly derangement of the liver. In orthostatic albuminuria its presence probably bears no causative relation to the excretion of albumin, but the presence of calcium oxalate crystals and albumin in the urine may be due to the same disturbance which, however, only leads to the albuminuria by causing vascular changes in the kidney.

Treatment.—The treatment is principally dietetic and hygienic. The diet, in contrast with that indicated in nephritis, should be liberal as in the case of perfect health. Any food stuff which will aid in strengthening the

patient is indicated. The hygienic treatment is very important. Fresh air and exercise are essential. Bathing and other measures which stimulate the functions of the skin and circulation are also helpful. In the way of medicine mineral foods such as phosphates and preparations of iron and calcium should always be given. I may add that in cases of marked lordosis, it may be well to correct temporarily the condition by means of a splint.

ALBUMINURIA FOLLOWING PHYSICAL EXERTION.

This is a well-recognized form of albuminuria. The proteins excreted are "nucleo-albumin," serum albumin, and serum globulin. "Nucleo-albumin" is not present in the same relative proportion as in orthostatic albuminuria. I may state that I have never seen a case in which "nucleo-albumin" was the only protein present in the urine. The sediments of the urines containing albumin usually contain hyaline and faintly-granular casts. Blood cells are not infrequently present.

In the *British Medical Journal*, March 4th, 1911, I gave a brief report of the analyses of the urines of eight athletes before and after a marathon race. The following is the summary of the analysis:

BEFORE THE RACE.

1. "Nucleo-albumen," albumen, globulin and sugar absent in every specimen.
2. Indican present in much excess in one urine. In the other specimens it was present in normal quantities.
3. The sediments, which appeared normal to the naked eye, showed nothing abnormal microscopically except oxalate crystals which were present in five of the eight specimens.

AFTER THE RACE.

1. Seven specimens contained "nucleo-albumen," albumen, and globulin, and in the sediments hyalin and faintly-granular casts, and epithelial cells. In three of these there were in the sediments red blood corpuscles; in five calcium oxalate crystals sparsely distributed.
2. One specimen was free from "nucleo-albumen," albumen, and globulin, but contained hyalin and faintly-granular casts in the sediment.
3. Sugar absent in all.
4. The tests for indican gave practically the same results as those before the contest.

THOMSEN'S DISEASE.

ROBERT D. RUDOLF, M.D. (Edin.), F.R.C.P.
Professor of Therapeutics in the University of Toronto.

THIS peculiar disease, also known as Congenital Myotonia, was first accurately described by Thomsen, a Danish physician, who himself suffered from the condition. Since then a number of cases have been put on record, but the disease remains one of the rarest known.

When in Nova Scotia last summer, the writer met an old college friend, Dr. Arthur Birt, of Halifax, who is a much interested victim of the condition. Dr. Birt was good enough to allow the writer to thoroughly examine him and also was public spirited to the extent of permitting that his case be published. Several years ago he wrote about his condition in the *Montreal Medical Journal* (1) and there gave such a graphic description of the symptoms that most of the history here is merely recast from that article, and is largely given in his own words.

CASE.

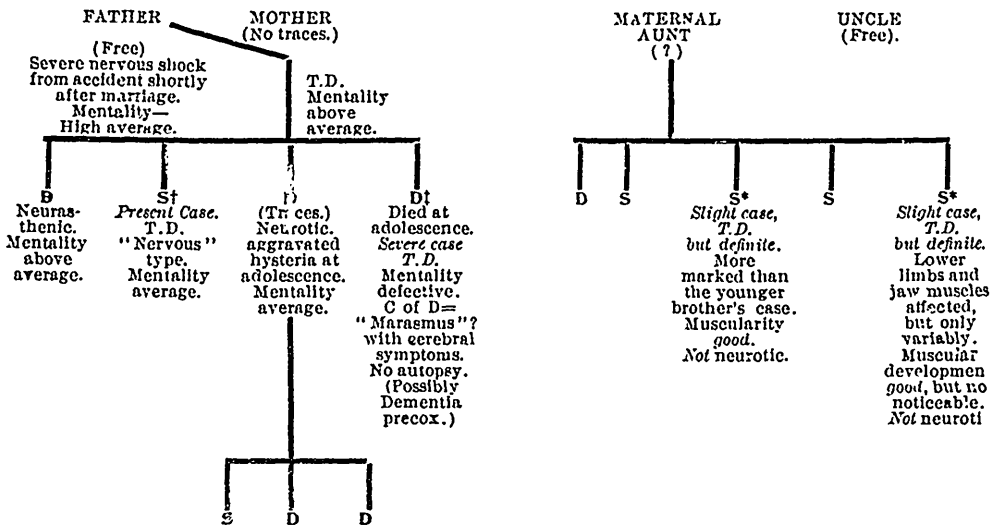
Complaints.—Painless stiffness and cramps upon first undertaking any voluntary movement.

Duration.—As long as patient can remember.

Previous History.—Ever since the patient can remember he has been afflicted with a painless stiffness and cramp on first attempting any voluntary movement, especially after rest. This was first noticed by others when he was about seven years of age and was attributed to rheumatism. It was also recognized that the stiffness quickly wore off on continuing the particular movement, *e.g.*, in running, but that it recurred after a brief rest. The condition effected all the voluntary muscles and gave to his initial movements of any kind a peculiar clumsiness. He often suffered falls and minor injuries, as a result of the cramps and his inability to "limber up" his muscles quickly. Rather unusual strength and muscularity were early evident, though he tired easily; and profuse sweating, especially about the head and neck were rather noticeable upon exertion. As a school boy the stiffness rather increased, and was a source of great disability in all sports and games. His school mates thought that he was "ham strung." Even the eyes, tongue and jaw muscles were stiff at times. There was never any pain—only a tense cramp-like feeling; and, if he caught cold, he seemed to suffer more than most people from general muscular soreness. He was always a nervous and highly-strung lad, and was himself well aware that mental stress aggravated the cramps. *Pari passu* with the muscular development, the disability progressed up to early manhood, since which time there has been no appreciable change in the condition.

Present Condition.—Aet, 47; height, 5 ft. 8½ inches; weight, about 150 pounds. The pose is rather characteristic. There is a moderate degree of lordosis. Both upper and lower limbs are carried with a slight degree of flexion at the elbow and knee joints, which are only straightened with a sense of effort and strain, due apparently to permanent hypertonicity of the more powerful flexor groups of muscles. The glutei are massive and the scapulae rather prominent. Thus the moderate lordosis, winged scapulae, slightly bent knees and arms give a picture quite different from that of pseudo-hypertrophic paralysis and from that of any other form of disease. The whole muscular system is well

TREE SHOWING INCIDENCE OF THE DISEASE AND OTHER NEUROSES IN FAMILY GROUP.
(Through the females chiefly to the males.)



* Mild † Typical. ‡ Severe.

developed, the different groups standing out sharply upon being contracted. Some groups are, however, noticeably more developed than others; thus, the neck is both long and thick, and the muscles of the forearm, glutei, vasti and internal obliques are those of a trained athlete, although no systematic exercise has ever been taken for any lengthened time. The calf muscles are not so well developed as are those of the upper limbs. On putting any group of muscles into a state of contraction they are felt to be of iron hardness, but this rapidly passes off, and if the contractions be maintained, a sense of fatigue rapidly supervenes, and the muscles become somewhat flabby for a short time.

The abnormality is entirely restricted to voluntary movements, and all of these are more or less affected. If the patient rises from a low

chair and attempts to walk away, he rises somewhat slowly and by preference by the aid of his arms, but the advance of the leg in the first step is then checked by a painless cramp of the extensor muscles, which have been thrown into a state of spasm by the act of rising. The other leg follows before the tonic spasm has left the first one, only to be checked in its turn by a cramp of the knee extensor and associated muscles. The second movement of the first leg is initiated before the spasm has completely relaxed, but the cramp is this time of shorter duration. With each succeeding advance of either limb, the duration of the spasm and stiffness becomes less, until in a varying number of strides the gait becomes normal. While this is taking place, the stiff clumsiness is very noticeable, although the patient from long experience has learned to make this to some extent. Should running be suddenly attempted, the difficulty is exaggerated, the rapid initiation of fresh leg movements, before the preceding spasm is fully relaxed, necessitating some help from the arms to maintain the balance and secure better leverage until the legs "limber up." Should he at this stage strike his foot against any obstruction, a fresh spasm results, and he is apt to fall headlong, saving himself from injury with difficulty, as the arms become stiff in their turn as they are extended in front of him; in fact, the rigidity extends more or less to all muscles under these circumstances.

Breaking from a walk into a run is more easily performed; but, speaking generally, any throwing into action of any new group of muscles, or even any sudden extra-energising of any groups already in action, evokes the tonic spasm.

In waltzing, after the preliminary difficulty, the evolutions are correctly performed, so long as "reversing" is not attempted. In "punching the bag," the first blow is delivered a trifle slowly, but the arm reaches full extension; there is then an appreciable delay in drawing it back for the second blow, owing to the extensor spasm. The second blow is slower and far less perfect, from the powerful flexor spasm; at a third attempt the blow is more rapid, and the resulting spasm shorter in duration, although the patient can still *feel* the cramp. With each successive blow that he delivers this becomes less and less, until, as in the case of the lower limbs, it disappears and the blows become forcible and regular.

On turning the head from side to side, spasm of the muscles concerned occurs, wearing off rapidly as the movements are repeated.

In shaking hands firmly, there is often difficulty in relaxing the grasp quickly, a trifle which may give rise to misconstruction in ordinary social intercourse. If the patient will to close the hand forcibly, the contraction of the flexors is slower than normal, the grip is powerful, but its full force is not attained at once. On attempting to unclothe the

hand quickly, a period of several seconds often elapses before full relaxation of the fingers is secured, the joints slowly extending from above downwards. If these movements be rapidly repeated, very shortly they become apparently normal. Myographic tracings, however, show that slight irregularities occur for many subsequent contractions, and this fact the patient himself recognizes.

Swimming shows the muscular disability very markedly, for here two contributing factors, which the patient considers of importance, occur, viz., cold and the nervous anticipation of the general spasm which will follow. The movements are slow and stiff, and co-ordination poor for an appreciable time, until he gets into the stroke. The large number of co-ordinated groups brought into play results in so much spasm that at times he may get a "ducking" before he can get sufficiently "limbered up" to get going.

In stooping, the back is stiff, partly from the lordosis and partly from the apparently hypertonic condition of the erector spinæ. If attempts to touch the toes, with the knees stiff, be repeated, he can reach a little nearer to the toes each time, but never as far as the normal range of spinal flexion.

The jaw muscles are affected, and if, after rest, he attempt to open and shut the mouth rapidly, the spasm and slow relaxation of the masseters and internal pterygoids may cause an appreciable delay in getting the mouth fairly open. Difficulty in chewing movements next result.

The muscles of the tongue also show the defect, if rapid protrusion and retraction be attempted. All the facial muscles are involved, but, as the spasm everywhere seems to be in proportion to the bulk of the muscles, the defect is not so noticeable in the face as in the limbs. Still, if he laugh or make any facial gesture after rest or exposure to cold, he is often conscious of a stiffness of the face, and a smile may take on a sardonic type and possibly require explanation.

The spasm has been noticed in the frontalis. The eye muscles are decidedly involved. Sudden lateral movements of the eyes cause a spasm which cannot at once be overcome, resulting in phosphenes, momentary diplopia and dizziness. The patient relieves this by stroking down the closed lids for a moment or two to help relaxation.

Writing is very little affected by the condition.

When the eyelids are closed there is, at times, sluggishness in opening them until the act has been repeated a few times. At times there are phosphenes on head movements. Occasionally, after prolonged rest and in cold weather, there is decided thickness of speech for a few moments, due to stiffness of the tongue muscles and those of the lips and mouth. In singing there is at times difficulty in getting a full note or tone, a difficulty which is associated with a feeling of something

amiss with the laryngeal muscles, and wearing off as usual, very rapidly, on persistence of the attempt.

Micturition is not affected as a rule, but, if the stream be stopped by voluntary contraction of the sphincter, a fleeting spasm and slow relaxation is easily appreciated by the patient.

It is usually stated that cold, time of day, mental excitement and the taking of alcohol have no effect upon the stiffness of the voluntary muscles, but in the present case they all have their influence either in the direction of increasing or of decreasing the severity of the symptom. In a case recently described by David Speroni (2) cold enhanced the condition.

Prolonged rest is a most important factor, the longer a group of muscles has been kept at rest the greater will be the tonic spasm when these muscles are thrown into action.

The more sudden and violent the action of any muscles, the greater will be the spasm resulting. Thus a sudden and strenuous attempt to "drop kick" a football will be followed by a severe extensor spasm, while the act may be performed with comparative ease if a few gentle preliminary kicks are first given.

Mental excitement and emotion have a profound intensifying effect in this case. As a school boy, the patient was a long distance runner, and when the pistol was fired for the starting of the race, the strong attempt to rapidly innervate the muscles was accomplished always by a momentary and indescribable feeling of utter powerlessness, the stiffly advanced limbs would be affected with a cramp of unusual severity, which took longer to wear off than usual; and should he by fixing the arms and initiating new contractions too rapidly and forcibly overdo things, he would be sure to trip and fall prone.

Dr. Birt regards this subjective and fleeting feeling of absolute powerlessness, succeeding the moment of willing to do the act, as evidence of the subject's actual appreciation of a delay in the *latent period*. This is interesting as some observers, from tracings made, believe that there is no delay or rather prolongation of the latent period, but only of the curve of contraction. This will be referred to again. Cold much increases the stiffness and spasm. This is said not to be the case as a rule, but one would certainly expect it to have some influence, as it seems to have in normal individuals. Small doses of alcohol undoubtedly diminish the severity of the cramps in the patient's case.

The tonic spasms are, as a rule, entirely painless, and it is only when successive contractions are rapidly and powerfully initiated, before anything like complete relaxation of the preceding ones has occurred, that

the muscles become "tied up," and a marked sense of discomfort, amounting even to pain, may result.

Passive movements are free from abnormality.

The knee jerks are exaggerated, but otherwise all the superficial, deep and organic reflexes are normal.

The *Electrical Reactions* were typically present in the present case. Hale White (3) gives them in the following order:—

(i) The motor nerves do not show any increase in irritability to mechanical stimuli.

(ii) To the faradic current the motor nerves are qualitatively normal, but if a strong one be used, the contraction produced on closing the circuit lasts longer than it does in health.

(iii) To the galvanic current the motor nerves are qualitatively normal; but here also if the current be strong the contraction lasts longer than in health.

(iv) Mechanical stimuli applied to the muscles, as by hitting them, induce contractions more easily than in health; these contractions often last from 5 to 30 seconds.

(v) The faradic current applied directly to the muscles, if strong, sets up a contraction which lasts from five to thirty seconds.

(vi) When the galvanic current is applied to the muscles directly, K.C.C. and A.C.C. are equally easy to obtain; whereas in health, as is well known, K.C.C. is more readily elicited than A.C.C. In Thomsen's disease, the contractions, even from weak currents, last longer than in health; with strong currents it lasts for some seconds, and relaxes very slowly. With the stable application well formed, wave-like contractions are seen to proceed slowly from the cathode to the anode.

It should be noted that in many of the reported cases there has been difficulty in demonstrating all these changes in electrical reactions, but in the present case they are all present.

Myographic tracings, when taken with the aid of electrical stimulation, show no increase in the length of the latent period, but a greatly prolonged curve of contraction, followed by a very long curve of relaxation. When, however, the patient was directed to shut and open the hand as strongly and as fast as possible there was prolongation of the latent period, the patient *feeling* that when he willed to flex the fingers he cannot start immediately. This point seems to the writer to be an important one, for, as the muscles contract as quickly as do normal ones when stimulated either directly or through the nerve by the electric current and yet do not do so when a movement is *willed*, one may conclude that there is some delay in the nerve centres, or between them and the terminations of the nerves.

Dr. Birt reports that a fragment of muscle excised from the vastus externus showed the following typical changes:—

(a) A marked increase in size, and especially in the breadth, of many of the muscular fibres, many of them being three times the normal width. They were also rounded rather than polygonal on section.

(b) Indistinctness of striation, and waviness of outline of fibres.

(c) An apparent increase of the nuclei of the sarcolemma.

(d) An absence of interstitial changes and vacuolation (as described by Erb.).

Hale White found the fibres in his case to vary from 1-150 to 1-500 of an inch, while the fibres from a normal muscle varied from 1-350 to 1-1000 of an inch.

Pathology.—There are many theories of the essential nature of Thomsen's disease, and most writers seem to have concluded that it is a disease solely of the muscular system. This rare disease in no way shortens life, and so far the only case in which a post mortem examination has been fully reported is one by Dejerine and Sottas (4), and here the nervous system was reported as having been normal. Some believe that it is an auto-intoxication due to some faulty metabolism, and Hale White calls attention to the similarity of the muscle tracings in Thomsen's disease to those which occur in the muscles of animals poisoned by veratrine; and also to the well known experiments of Ringer and Sainsbury with phosphate of soda on curarised animals, from which it appears that the myotonic contractions caused by stimulation of the sciatic nerve are due to the action of phosphate of soda on the muscular tissue itself.

It seems that according to Jacoby, quoted by Osler (5), the muscle changes are in no way characteristic of the disease, although J. Koch has found, in addition to the muscular hypertrophy, degenerative and regenerative changes, which he considers as sufficient to account for the myotonia.

Thomsen considered the condition as a pure neurosis and called attention to the heavy incidence of nervous disease in his family history. Dr. Birt also, who has gone so thoroughly into his own case, believes that a purely muscular change will not account for the condition, and writes as follows:—"That the disease is primarily a congenital functional defect in the mechanism of inhibition. That, owing to the faulty functioning of the neurones concerned, the muscles are kept in a state of hyper-tonus; and, on attempting to suddenly contract a muscular group, the inhibitory 'break,' so to speak, cannot be taken off rapidly enough. This delay would represent the prolonged latent period and the moderately slow contraction. On attempting relaxation, the disorder of inhibition is more than ever in evidence—the break is taken off with much increased difficulty, and thereby is explained the persistence of the con-

traction and the remarkably slow relaxation. The more powerful the contraction the greater the inhibitory difficulty. The hypertrophy of the muscles would thus be a secondary development, dependent (*a*) on the state of hypertonus (kept up by the over-activity of the inhibitory mechanism) during rest; and (*b*) on the prolonged contractions and delayed relaxations constantly repeated. It is conceivable that the trouble might be aggravated by the excessive accumulation of the products of muscle waste during the prolonged contractions. This view would make the defect in Thomsen's disease comparable to that in stammering, and class it as a neurosis of the whole psycho-motor tract. It accounts easily for the aggravation caused by depressing mental emotions, cold and fatigue, and the relief under the opposite conditions. It still remains for the physiologists to clear up for us the whole subject of 'inhibition.' The wearing off of the spasm on repetition of the movements would be explained by a rapid exhaustion of the excessive inhibitory impulses; and the early fatigue by the excessive accumulation of the products of muscle waste. The longer the period of rest, the greater the rapidly renewed power of the inhibitory 'break,' and, consequently, the greater the tonic spasm on voluntary movement, requiring powerful willing to overcome it."

It seems as if there were two faults in this disease (*a*) a central delay of some sort, so that when the patient wills that certain muscles move, they only do so after an abnormally long period. Hale White and others have shown that the muscles respond at once to electrical stimulus, the latent period not being at all prolonged, and hence, as already said, the delay must be higher up. But the chief trouble is in the prolonged contraction which ensues when once the muscles *do* react, and here the writer would fully agree with Dr. Birt in thinking that (*b*) some profound disturbance of inhibition occurs. The inhibition of voluntary muscles is a reflex act and is of the greatest importance in the carrying out of all voluntary movements. Professor Sherrington, in a communication recently given before the Medical Society of Liverpool (6) makes this matter clear and says that the main purposes that this inhibition serves are as follows:—

(i) It cuts short the contraction of one set of muscles when another set are called into play.

(ii) It grades the degree of intensity of the discharge from nerve centres by diminishing it to any required extent.

(iii) It exhibits itself in the taxis of a number of important reflexes, such as those of stepping and respiration and eye-ball movements, in a form known as reciprocal innervation of muscles.

(iv) Inhibition is the main means by which rhythmic reflexes are produced. This occurs in the following way: To take, for example,

the rhythmic reflex of stepping—one phase of the rhythmic reflex is excited and then its very execution produces a stimulus which evokes a reflex inhibition, cutting that phase short, and interrupting the action of the stimulus that produces it. The inhibition is then removed in virtue of the movement which caused it having, under the inhibition, lapsed. The original stimulus thus becomes operative again. And so the rhythmic reflex was maintained, rhythmically repeated inhibition being a main factor in its production.

(v) Inhibition is followed on its withdrawal by a great augmentation of activity of the inhibited centre.

A lessening in the amount of inhibition would thus produce exactly the state of motor disability that one finds in Thomsen's disease, except for the preliminary *pseudo-latent* period between the willing to perform a movement and the commencement of that movement.

It would be useless here to speculate as to the exact cause of this diminished inhibition. Professor Sherrington points out that in the case of the voluntary muscles, inhibition is purely an afferent matter, afferent impulses inhibiting the influence of motor histo-neurones which actuate the muscles.

The similarity of the muscle curve in Thomsen's disease and in that produced in animals by the use of veratrine has been already alluded to, and it might perhaps be argued that veratrine thus acts through paralyzing the inhibitory mechanism of the muscles, but according to Cushny (7) the muscles show their peculiar reaction to veratrine even when removed from the body, and it is believed that the drug causes increased catabolic changes in the muscle, thereby producing a prolongation of the period of active contraction, as well as an increase in the height of the contraction and in the absolute strength of it.

Against a toxic cause of the disease is the fact of its persistence without marked alteration. On the whole, a weakened condition, probably congenital, of the afferent inhibitory apparatus would seem to best explain the obscure condition, the muscle changes being secondary.

Diagnosis.—In a well marked case this is evident on the most superficial examination, but in slightly developed ones there might be difficulty. Here a careful scanning of the family history will help, as the disease is so markedly confined to certain families. Thus in Dr. Birt's case the mother had traces of it, two cousins were slightly affected, and a sister had it severely.

Prognosis.—The disease does not tend to shorten life, except though the increased risk of accident. It is not likely to get worse after puberty, but on the other hand does not have any tendency to improve.

No treatment appears to have the slightest effect upon the condition.

REFERENCES.

- (1) Arthur Birt. A study of Thomsen's Disease, Montreal Medical Journal, November, 1908.
- (2) David Speroni. Myotonia Congénita, Revista de la Sociebad Medica Argentina, 1909, page 725.
- (3) W. Hale White. Albutt and Rolleston's System of Medicine, Vol. VII., page 25.
- (4) Dejerine et Sottas. Sur un cas de maladie de Thomsen, suivi d'autopse. Rev. de med., Paris, 1895, XV, page 241.
- (5) W. Osler. Practice of Medicine, 1909, page 1113.
- (6) C. S. Sherrington. The Rôle of Reflex Inhibition, British Med. Journal, 1911, Vol. I, page 690.
- (7) A. R. Cushny, Pharmacology and Therapeutics, page 334.

RELATION OF PHYSICIAN TO SURGEON.

By JOHN HUNTER, M.D., Toronto

THE history of medicine, however fragmentary and unreliable much of it may be, reveals the fact, that the physician had an assured place in the life of the people centuries before the surgeon had a distinctive one. During the first thousand years of the Christian era, surgical operations were "farmed out"—bloodletting to barbers, and dislocations and fractures to bone-setters. Toward the close of the "Middle ages," the study of anatomy began to attract the attention of medical men. The labors of a number of distinguished anatomists paved the way for the advent of scientific surgery. Medical knowledge increased so rapidly during the past two centuries, that in order to keep abreast of the times, a division of labor became a necessity—hence the evolution of the physician, and of the surgeon. The sphere of each is becoming more fully recognized by the public, and therefore the relation of the one to the other is a problem that looms up very frequently, and sometimes, most unfortunately, causes very unpleasant feelings.

A number of patients go directly to the surgeon. The attitude of the physician toward these is akin to that of the Jew to his ancient neighbor the Samaritan. A majority of patients go first to the family physician who, if he does not combine the two vocations, calls in the surgeon, when surgical measures become a necessary part of the treatment. The relation of the surgeon to the physician in all cases referred by the latter to the former, is tersely expressed in the phrase an "Imperium in imperio." The physician legitimately occupies a place

analogous to that of a commander-in-chief. This officer hands to the members of his staff, a chart, showing the purport of the movement, strength of the enemy, character of the field, etc., and as he is held directly responsible for what is done, so the physician should assume full responsibility for the management of the case throughout the whole course. It is his duty to choose the surgeon, or at least fully satisfy himself as to the ability of the one the patient may suggest. The physician is under no obligation to accept any surgeon the patient may choose, for he should be in a far better position to judge the attainments of the surgeon than the patient can possibly be. Having satisfied himself as to the choice of a surgeon, it is the physician's duty to have his patient in the best condition to undergo an operation, that it is possible to procure. He should be prepared to hand the surgeon a chart, made out by himself, or by a competent and reliable nurse, and which should contain a history of the patient, the clinical aspects of the morbid conditions, and the result of treatment. It is a piece of criminal negligence for the physician who has had a patient under his care for some time to pass him, or her, on to the surgeon and expect the latter to make a diagnosis, based, partly, at least, on the very imperfect information furnished by the patient, and supplemented by statements from the deceptive memory of the physician.

Space will only permit of a very brief and imperfect synopsis of what such medical charts should contain. In addition to the facts incident to heredity, race, vocation and environment, specific information should be furnished as to the influences certain morbid conditions exert on account of age, sex, or vocation, *e. g.*, tumors, that might necessitate removal in childhood; if present during the child-bearing period of womanhood; or on account of vocation, may not demand any interference at a later period in life, or with other vocations. In all cases when the patient has been under the care of the physician for weeks, or months, the result of treatment should be accurately recorded in the chart.

The effect of intelligent, energetic anti-syphilitic treatment is of vital importance in determining the aetiologic factor in many lesions. The chart should specify the results obtained from the use of opsonic, microscopic, and x-ray investigations. Vascular, hematic, nervous, pulmonary, cardiac, hepatic, gastro-intestinal, genito-urinary, lymphatic, glandular and cutaneous conditions and functions, blood-count and blood-pressure, character of pulse, respiration and temperature should be recorded.

In infancy, childhood, and adolescence, apart from traumatism, the morbid conditions requiring surgical treatment, are chiefly those due to infection from pathologic micro-organisms. Within the cranial

cavity, the destruction of nerve tissues and cells, and the disturbance of function from pressure are due, in the majority of cases, to the development of abscesses, from infection conveyed from the eye, ear, throat, nose and its accessory sinuses. The medical chart should contain specific information in regard to the auditory, ocular and naso-pharyngeal conditions and functions. Psychic disturbances producing changes in intellectuality, and in character, and convulsions—Jacksonian, or more general ones, must be noted. In the enlarged glands of the neck, the aetiologic factor—septic, tubercular, or syphilitic, must be determined by the use of serums, tuberculin, or anti-syphilitics treatment. In regard to the thyroid gland, the physician must be familiar with the signs and symptoms, of simple parenchymatous, or cystic enlargement, cretinism, and hyper-thyroidism. In the thoracic region, the chart should specify the symptoms and signs of pleurisy, the character, and quantity of the exudate, also the aetiologic factors involved in enlargement of the axillary, and mammary glands. When the liver and gall-bladder are affected, the increased dullness, tenderness, pain in back below right scapula, or radiating over abdomen, severe paroxysms of pain in gastro-hepatic region, vomiting, persistent or intermittent jaundice, obstinate constipation, clay-colored, offensive stools, should be recorded. In gastric lesions, the results obtained from test meals, lavage, emetics and x-ray, together with the presence of pain, distention, dullness, hematemesis, and shock, aid in the diagnosis of gastric ulcer, or malignant growths. Within the abdominal cavity, inspection, palpation and percussion reveal the position of the kidneys, the presence of tumors, and of effusion into the peritoneal cavity. Obstipation, constipation, hemorrhage, pain and tenderness indicate functional disturbances. Lesions in the pelvis are to be sought for with the aid of the proctoscope, speculum, and cystoscope, in addition to the evidence furnished by inspection, palpation, percussion and bi-manual examination—rectal and vaginal. The presence of pain, rigidity, tenderness, and of any disturbance of the genito-urinary functions must be recorded. Lesions of the osseous system, and of the joints—apart from those due to traumatism—having their origin in systemic conditions, *e. g.*, venereal, rheumatic, or tubercular, demand special attention. Lesions of the nervous system, calling for surgical aid, are those usually due to pressure from tumors, acute infection—as poliomyelitis, or degenerative changes.

The physician's chart should present a very full and accurate clinical picture of the morbid conditions produced by the lesion,—be it traumatic, or pathologic in origin—for the removal of which the aid of the surgeon is sought. In addition to the preparation of such a chart, the physician should prepare his patient for the consultation. It often comes as a severe shock to the patient when told by the surgeon that an

operation is required. A little tact, judiciously used by the physician in explaining the necessity for a consultation, the probability of an operation, the absence from pain under an anesthetic, and the favorable results to be expected, makes it very much easier for the patient to accept the surgeon's decision. When the time for the operation is set, neither the physician, nor the patient, should be seized—as is only too often the case—by the delusion that nothing remains to be done but to await the operation. The result of the consultation has not lessened the physician's responsibility. He must prepare his patient by the use of medicine, special diet, rest, baths, in order that all the functions of the body be brought up to as nearly normal conditions as possible. After the operation the physician should resume full control of his patient. He should prescribe the diet, and any anodynes, hypnotics, or laxatives required. The duty of the physician is the care of the patient, that of the surgeon, the care of the wound. The physicians chart should furnish the surgeon with a full and accurate record of the patient's condition from day to day. The physician holds superior authority and incurs full responsibility until the recovery of the patient is assured, more or less relief obtained, or death ensues. The surgeon is directly responsible to the physician, when accepted or selected by him. If dissatisfaction arises, it is as cowardly, as unethical, for the physician to listen to, or accept a statement exonerating him, and expressing censure on the surgeon or nurses. His answer should be, "I had full control of the case, and hold myself personally responsible for everything that was done." He can have it "out" with the surgeon, and nurses, personally, for any errors or negligence on their part.

In conclusion, has not the time come, when the surgeon should choose the type of physician with whom he is to be associated in the treatment of a patient? Should he jeopardize a life, or imperil a reputation, on the meagre and unreliable information furnished by an incompetent, or negligent physician? Should he not demand a full and accurate clinical record of the case, and if the physician cannot, or will not furnish it, either refuse to take the case, or else ask for the services of a more competent physician?

This attitude invoking the "lex talionis" on the part of the surgeon might bear rather heavily on those of us who have "grown grey" as there was a paucity in instruments of precision, and in opportunities for acquiring much knowledge of the morbid conditions affecting the eye, ear, nose and throat, in our college days. Any graduate of the past fifteen or twenty years should not only be able to furnish the surgeon with an accurate and complete clinical record, but should considered it a duty to do so. The effect of some such attitude between physicians and surgeons would prove a challenge to better work. It would contribute

a larger degree of safety to the patient, as well as help to beget a feeling of greater respect for each other among medical men. Let each one of us—young, middle-aged, and old, respond to the call "Play up, Play up, and Play the Game" to the full limit of our attainments, and to the needs of our age.

INDICATIONS FOR THYROIDECTOMY.

Kocher, whose diagnostic and surgical experience has probably not been equalled or excelled, gives the following indications for the operative treatment of goitre: "We long ago abandoned the belief that every goitre must first be treated with internal remedies and referred to the surgeon only if internal medication fails: (1) Internal treatment is useless in struma nodosa, with nodules in process of secondary degeneration. Degenerative nodules can also be recognized directly by the changes in their consistency. Thus all colloidal degenerated nodules (struma gelatinosa), as well as fibrous, calcareous, hemorrhagic and cystic nodular goitres must be at once turned over for operative treatment. (2) Diffuse colloid tumors that have resisted several brief periods of iodine medication must be referred to the surgeon, especially if they have already given rise to functional disturbances. (3) All goitres that cause pronounced pressure symptoms must be treated by operation. (4) The same is true of those which produce cardiac symptoms, and (5) of goitres that are abnormally situated, especially struma profunda and intrathoracic, which are very dangerous if the tumor continues to grow. (6) If a goitre develops suddenly and grows very rapidly, and if the shape and consistency are unusual, it must be treated by operation, regardless of age. (7) A goitre showing sensitiveness on pressure, especially if it causes spontaneous pain, must be referred to the surgeon."

With reference to the treatment of exophthalmic goitre by operation, Kocher further states: "Patients of this kind (referring especially in this connection to working people who may happen to suffer from Graves' disease) also illustrate better than any others the good results obtained by operative treatment, which are so prompt that the patients are able to return to their work in a relatively short time."

Further, under the head of surgical treatment of Graves' disease, Kocher epitomizes the matter in the following words: "To say that this is still the best is not enough. It has proved itself superior to any other form of treatment. It attacks the organ which is instrumental in producing the toxicosis, namely, the thyroid gland."

CURRENT MEDICAL LITERATURE.

SURGERY.

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THE TREATMENT OF FRACTURES OF THE RADIUS
AND MALLEOLI.

At the late meeting of the Association of German Scientists and Physicians, Dr. Bergmann (*Wiener klin. Wochenschr.*, No. 40, 1910) reported excellent results from the method of Lexer in typical fractures of the radius. A flannel bandage almost always sufficed to prevent any recurrence of the dislocation, although in a few severe cases additional support was afforded by a pasteboard splint. Subsequent examination of the patients treated showed that in 88 per cent. union was anatomically correct, while in 85 per cent. complete mobility was present. The average period of healing was three weeks. Lexer's method of bandaging in the corrected position was also utilized in the treatment of fractures of the malleoli. Two strips of adhesive plaster are applied in the manner of a stirrup, which in abduction fractures of the foot force the limb into a position of slight supination and adduction. To permit of the position being regulated, a rubber band is stitched to the adhesive plaster in the middle line below. This band is provided with hooks, which can be fastened to eyes attached above to the adhesive plaster strip, permitting of strong traction being exercised. On the day after the injury the patients are allowed to leave the bed under use of crutches, but are directed not to attempt to stand until the second week. Complete weight-bearing is not permitted until the third week. In heavy persons a flat-foot plate is always to be worn. Lexer's dressing is particularly adapted for double fractures at the ankle and supramalleolar fractures of the fibula. Later examinations in twenty cases showed complete cures, except in two instances. The advantages of this method as compared with the use of rigid splints are that the bones of the foot are maintained in a correct position, that the muscles are not damaged, and that exercises can be early undertaken.

OPEN TREATMENT OF FRACTURES.

In an article based on his experience in St. Mary's Hospital, Rochester, Minn., Dr. M. S. Henderson (*Jour. Minn. S.M.A.*, Oct. 1, 1910) remarks that in advocating operative treatment of simple fractures one

should consider that existing circumstances and surroundings must determine the procedure to be followed. Strict asepsis is at all times necessary. Therefore, operative procedures on fractures should be done only when we are assured of surgical technic which is the best and safest. Metal splints are considered by the author as perhaps the best means of holding the fragments together. Silver wire has not proved very satisfactory. An ordinary steel plate, using ordinary steel screws, is sufficient. The splint held by two screws on each side of the line of fracture ensures the best fixation. Oftentimes long screws are sufficient to hold the fragments in position. Different sized drills are used for boring holes for the screws. Certain cases, such as fracture of the olecranon process of the ulna or the patella, can be competently held by chronic catgut, placing the limb in a plaster cast during convalescence. The least possible handling or bruising of the soft parts is to be desired. In the clinic at St. Mary's Hospital the cases of fracture treated by the open method have been mostly old, non-united fractures and fractures about the joint. The large majority have been non-united fractures of long standing, most of them over a year and many of them two and three years. In the clean cases the splints have not given any trouble, and, in fact, in some cases in which an ivory bone plug has been introduced in the medullary cavity to set up a chronic irritation and hasten the formation of callus, the ivory plug has healed in, and the patient has had a perfectly functioning limb. The metal bone splint has been used in twenty-seven cases, and in only two of the sixteen of which reports have been obtained has it been necessary to remove the splint. Both of these patients were operated upon for old compound non-united fracture.

IODINE.

G. C. Kinaman, at Senn's suggestion, investigated the bactericidal action of iodine, and his results may be summed up as follows:

(a) In a solution of iodine varying from a 0.2 to a 1 per cent., we have a very potent germicidal agent.

(b) Its germicidal power is far superior to that of bichloride. This fact was shown by comparative experiments made with a 1-1,000 solution of bichloride on *staphylococcus pyogenes*, using the same method employed with the iodine solution. It was found that an exposure of fifteen minutes, although showing considerable inhibitory power, especially on the first day, permitted a good growth of staphylococci to appear. An exposure of thirty minutes gave no growth. The superiority of iodine was evidence by the fact that a comparatively weak

solution, (0.2 per cent.) was destructive to the germ after two minutes' exposure.

(c) It approaches the ideal antiseptic in that it is easily prepared and stable. It is non-toxic and non-irritating in proper dilutions. It does not coagulate albumen nor form inert compounds with tissues; it is effective in a very brief time, and possesses a remarkable penetrating power.

The preparation generally used is the tincture, which contains 7 per cent. of iocine; some surgeons employ a special tincture of 10 per cent. strength.

Tincture of iodine has been recommended as an application for the hands of the surgeon and his assistants before performing an operation, in lieu of the wearing of rubber gloves.

INCONTINENCE FOLLOWING RECTAL OPERATIONS.

Dr. L. J. Hirschman (*Jour. Mich. S. M. S.*, October, 1910) in a most instructive article on this subject, concludes that if one is familiar with the anatomy of the sphincter muscles, avoids the use of the actual cautery or the injection of escharotics, is careful not to injure the muscular layers of the bowel in excising hemorrhoids, incises the sphincters at right angles in excising fissures of fistula, and uses common sense in his after-care—avoiding packing and using drainage—there is no reason why incontinence of feces should ever be held up as a reproach to those who are doing honest and conscientious work in rectal surgery.

SUTURE OF THE PATELLA.

Dr. E. W. Baum (*Deut. Ztschrift. f. Chir.*, No. 104, Hft. 3) considers it advisable in all cases of patellar fracture to suture the fragments, which is done in the following manner: The joint is opened by a curved incision, and all coagula carefully removed, after which the fragments are sutured with silver or aluminum bronze wire and the torn ligaments with silk. With the wound still open, the knee is flexed at an angle of 135 degrees, the skin sutured, and a splint applied to maintain the knee in this position. The splint is removed on the sixth day and the angle of flexion increased, and this procedure continued from time to time. After the third or fourth day the limb is massaged, and after two weeks active motions begun in the recumbent position. The results of this method, which is characterized by its painlessness, have been

very satisfactory, the patient's stay in the hospital being, on the average, forty-seven days, as against sixty-four under former methods. Functional restoration was so complete that on leaving the hospital very little after-treatment was required. Even in the case of older fractures, the treatment, although of longer duration, afforded excellent results.

INDICATIONS FOR GASTROENTEROSTOMY.

In twenty cases of gastroenterostomy for gastric and duodenal ulcer occurring in the clinic of Rovsing, Copenhagen, Dr. A. Blad (*Archiv. f. klin. Med.*, Bd. 92, Hft. 3), investigated the motor activity of the stomach after the operation. While this was improved in a small number of cases, in the majority there was no change, and in a few instances the condition was even worse than before. On examining closer into the matter he found that the motor activity failed to increase in cases in which the ulceration had been confined to the mucous membrane and the pylorus was freely passable. Under these circumstances the periodical reflex of bile and pancreatic and intestinal secretion through the anastomotic opening caused overfilling of the stomach and prevented it from readily emptying itself. If, however, the pylorus at operation was found to be markedly involved the gastroenterostomy was followed by better results. Yet even when the motor activity of the stomach was not improved the patients felt better than before the operation, and this is attributed by Blad to the entrance of pancreatic and intestinal secretion and bile, which neutralized the strongly acid gastric juice. Moreover, through a reflex action the gastroenterostomy causes a reduction in the gastric secretion. For these reasons he regards this procedure as indicated in cases of ulcer with hypersecretion of strongly acid gastric juice, but contraindicated in ulcers associated with gastritis and achylia.

GYNÆCOLOGY AND ABDOMINAL SURGERY.

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

OVARIAN FIBROMA OBSTRUCTING LABOR.

Among the rare causes of dystocia, only two other cases having been reported, according to G. Link (*Surg. Gyn. Obst.*, xi, 1910, 591) is fibroma of the ovary. The writer was obliged to perform Cesarean section upon a primipara of eighteen years on account of the presence

in the pelvic cavity of a tumor about the size of a fetal head. The growth was a calcified ovarian fibroma.—*American Journal of Obstetrics and Diseases of Women and Children*, March, 1911.

DIAGNOSTIC VALUE OF THE UTERINE SOUND IN CANCER OF THE UTERINE BODY.

H. Violet (*Lyon med.*, Nov. 13, 1910) says that hemorrhage, sanguineous leukorrhœa, and watery discharge do not appear in early cancer of the uterine body. A sign that he thinks of great value is obtained with the flexible uterine sound used carefully and without any violence. While the sound may produce a small amount of flow when passing the internal os, it will not cause persistent and profuse bleeding after passing over the internal surface of the normal mucosa. If this does occur it is a valuable indication of the presence of cancerous tissue which is friable and bleeds easily. Another valuable sign is a feeling of roughness with the enlarged end of the sound. A slight grating noise may also be heard by an expert ear when the sound scrapes over the diseased surface. These two signs are of great value in the diagnosis of cancer of the body early enough in the disease to permit of successful operation. *American Journal of Obstetrics and Diseases of Women and Children*, March, 1911.

USE OF CORPORA LUTEA FOR SYMPTOMS OF ARTIFICIAL MENOPAUSE.

C. A. Hill (*Surg., Gyn., Obst.*, 1910, xi, 587) has used extract of corpora lutea in doses of 5 grains three times a day in twelve patients from twenty-five to thirty-eight years of age from whom he had removed both ovaries and who showed very severe nervous symptoms. The nervous symptoms were completely relieved in every case. In only two cases was there complete relief from flashes of heat, in another case suffering from insomnia which started after her operation over a year before and had continued ever since and upon whom hypnotics gave no results, complete relief was experienced after using fifty capsules, each containing 5 grains. One case reported a notable increase in sexual desire, while in the remaining eleven no noticeable change was experienced.—*American Journal of Obstetrics and Diseases of Women and Children*, March, 1911.

TRAUMATIC RUPTURE OF PUS TUBES CAUSING DIFFUSE PERITONITIS.

As Bovée was able to find reports of only fifty-five cases in which rupture of a pus tube produced diffuse suppurative peritonitis, C. M. Echols (*Surg., Gyn., Obst.*, 1910, xi, 589) records two which he has observed. In both the pyosalpinx was chronic and he considered it without doubt of gonorrhœal origin though no bacteriological examination was made. In both the tubal rupture was traumatic, in one case from rather violent coitus, in the other from extreme muscular effort, in each case feeling that "something gave way" preceding nausea and signs of peritonitis. Since in about one-third of the fifty-six cases tabulated by Bovée the diagnosis was made only at autopsy, it seems probable that many others have been concealed under the diagnosis of peritonitis or appendicitis.—*American Journal of Obstetrics and Diseases of Women and Children*, March, 1911.

ROENTGEN THERAPY OF UTERINE MYOMA.

Franz Bardachzi (*Munch. med. Woch.*, Oct. 18, 1910) says that it has been shown by experiments on the ovaries of dogs that the Röntgen rays have a marked effect on the ovaries, causing atrophy of the Graafian follicles and primary follicles. The author gives histories of six patients in whom myomata were treated with this therapeutic application with good results. The growths were caused to atrophy, and the hemorrhages were controlled. Strong applications are necessary in order to get good effects. The author thinks that we should try the x-rays in all myomata, not reserving them for inoperable growths. They shorten the treatment materially and relieve both doctor and patient from a tedious course of treatment. If only a small number of growths are brought to a standstill, yet the symptoms are much relieved.—*American Journal of Obstetrics and Diseases of Women and Children*, March, 1911.

UTERINE BLEEDING OF OVARIAN ORIGIN.

Kaji (*Monatschr. f. Geb. u. Gyn.*, Nov., 1910) says that in many cases of uterine bleeding an excellent reason is found in growths, whether benign or malignant pregnancy or abortion, or inflammatory disease of the endometrium. But there are some cases, either at the menopause or at the time of puberty, that seem to have no evident cause;

formerly these cases were referred to supposed pathological conditions of the endometrium, which have now been shown to be normal to the climacteric. Benecke was the first who advanced the opinion that this bleeding depended on a functional derangement of the ovarian function. Under it the uterus underwent swelling and increase in the glandular substance, and bleeding resulted. Other authors have by their observations corroborated his views. Franz thought that there were changes in the nutrition of the ovaries, and degeneration of the Graafian follicles, Winternitz described thickening of the tunica albuginea, increase of connective tissue, destruction of the primary follicles, and degeneration of the blood-vessels of the ovary. Pankow maintained from observation of forty-four cases that the majority of the ovaries showed no typical changes, and that the condition was functional ovarian derangement. The author made a systematic examination of ovaries in the Halle Frauenklinik in seven cases of which he gives the histories. Six of them were at the climacteric, one at puberty. No cause for the bleeding could be found in the uterus. In case of the six older women the uterus was removed with good results. In the seventh the enlarged right ovary was removed. The extirpated uteri showed no typical lesion, although not entirely normal. In the ovaries were several varieties of change, cysts, thickening of the tunica albuginea, etc. The bleeding resulted neither from lesions of the endometrium nor of the myometrium, but from derangement of the physiological function of the ovary.—*American Journal of Obstetrics and Diseases of Women and Children*, March 1911.

OBSTETRICS AND DISEASES OF CHILDREN.

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

VALUE AND LIMITATIONS OF THE EMPLOYMENT OF COLD AIR IN THE TREATMENT OF ACUTE RESPIRATORY CONDITIONS.

J. P. Crozer Griffith, M.D., Le Fetra, and others, in a general discussion on this subject which took place at the annual meeting of the American Pediatric Society in Washington last May, are reported in the *Archives of Pediatrics* for December, 1910. Dr. Griffith opened the discussion by considering the action of cold air on the organism. The breathing of cold air, he thought, had little importance in its effect. He thinks the fact that the hot air of summer has less beneficial effect than

the cold air of winter is due to the general depressing effect of heat upon the system.

The outdoor treatment is valuable not only in respiratory diseases, but in many other conditions, such as the malnutrition of infants. He is convinced that the treatment can be overdone.

The cases should be carefully selected, as delicate infants do not bear exposure to very cold air, and bronchitis in children is benefited more by treatment in a uniform warm temperature rather than by cold air.

Dr. Le Fetra raised the question as to the desirability of greater knowledge of the physiological action of cold air upon the various parts of the respiratory tract. In the Babies' Hospital in New York there is a ward kept at 50 degrees F., while beside it is another kept at from 68 to 70 degrees F. Both wards have southern exposure. Two hundred cases were treated in the cold ward. The advantage was found particularly in the treatment of pneumonia cases. Irritability and restlessness were reduced, sleep was promoted, and dyspnoea reduced. The most marked effects were noted in cases of frank lobar pneumonia. Cases which developed laryngitis or sibilant rales were not benefited. Cases of this nature were cited in illustration of this point.

He concludes that in the acute congestion stages of inflammation of the upper respiratory tract (rhinitis, laryngitis, bronchitis, especially of the small tubes, with or without broncho-pneumonia), warm, moist air is of greater value than cold, dry air.

In lobar pneumonia, with high temperature and little or no bronchitis, cold, dry air is a great advantage. The same is true of pulmonary tuberculosis and of empyema.

After the acute stage has passed, and when there is no inflammatory spasm of the larynx or bronchi, the cold-air treatment is of advantage in cases of rhinitis, laryngitis, bronchitis, and broncho-pneumonia.

Dr. Northrup thought it was of importance that the air should not only be cold, but fresh. "The essential of fresh air is partly that it shall be circulating, moving air."

Dr. Howland stated that children with acute infections do better in cold air than in warm air; that they do better out of doors in winter than in summer. Children in the cold air have a rise of blood pressure which is permanent and constant. As has been shown, the cause of death in acute infections is due to collapse of the vasomotor system. The action of this treatment is probably the benefit of the cold air counteracting the evil effects of the toxins on the vasomotor system. Caffein, given hypodermatically, raises the blood pressure by action on the peripheral vessels very similar to the action of cold air.

Dr. Southworth drew attention to the advantage of cold air in the prevention of acute respiratory diseases, citing the fact that during the

winter, in the wards of a hospital he has been connected with, they have kept the temperature so low that the hands and faces of the children looked blue and chapped, yet acute respiratory infections have become extremely rare among the inmates of the hospital.

Dr. Griffith, in closing the discussion, stated that we are making a mistake to abandon things merely because they are old. He remains a firm believer in this method of treatment, yet he still believes that the employment of vapor in the room, careful guarding against exposure, and similar practices, are of great value in certain instances, and he thinks there is a little danger than the cold air treatment may become a fad, valuable as it undoubtedly is.

HYPOPHYSIS EXTRACT AS A UTERINE STIMULANT.

Dr. J. Hofbauer, in *Zent. f. Gyn. No. 4, 1911*, reports some cases where he employed pituitary gland extract.

Under the title "The Action of Extracts of the Pituitary Body," Dale publishes in the *Biochemical Journal* for 1909 a large series of experiments which he carried out, showing the action of extracts of the pituitary body upon an involuntary muscle. "The action is a direct stimulation of involuntary muscle without any relation to innervation." The action was most marked in the case of the uterus.

Frohlich and Frankl-Huchwart, *Wiener, Klin. Wochsch.*, 1909, No. 27, and also in *Arch. fur. Experim. Path.* Bd., 63. f. 5, published records of experiments with the same substance, showing that it particularly brought about contractions of the gravid uterus in rabbits, increase in electrical irritability of the hypogastric and pelvic nerves and also increase the activity of the muscles of the urinary bladder, all of which occur independent of blood pressure.

These experimental observations led the author to try and ascertain the value of pituitrin in obstetric practice, especially from the standpoint of increasing the frequency and vigour of the uterine contractions.

He gives records of six cases in this paper, and in a foot note mentions six others, and in every one of which very marked increase in uterine activity has followed the hypodermic injection of pituitrin extract.

He states that the contractions produced as a result of the injections were always regular, and not at all tetanic. In the expulsive stage of labour, the action seemed almost storm-like.

In experimenting upon animals, shortly after the injection of the extract, rhythmic contractions of the long and circular fibres of the uterus

are to be noted which lead to a shortening in the longitudinal contraction.

The author was particularly impressed by the action of the injections upon the urinary bladder. Cases in which the patient had been unable to void for hours, regained power in five minutes after injection.

He hopes to undertake further experiments in order to ascertain the effect of varying doses.

He thinks the experiments have shown that there is little danger of the action resulting in danger of asphyxia to the foetus.

The substance has been used frequently for hæmorrhage in the puerperal period, (*Zent. f. Gyn.* No. 46, 1910).

Reference is made to the hyperplastic and hypertrophic conditions of certain well known glands giving rise to internal secretion during pregnancy. (*Volkmannsche. Vortrage Gyn.* 210, *Deutsche. Med. Wochschr.*, 1910, No. 36).

PERSONAL AND NEWS ITEMS.

ONTARIO.

Dr. H. B. Anderson, of Toronto, is spending some time in Germany.

An anonymous donor has given \$5,000 to the Nurses' Home of the St. Vincent de Paul Hospital of Brockville.

There have been several cases of the hæmorrhagic type of smallpox in Frontenac County.

Dr. John J. Thompson, of Dundas Street, Toronto, has been appointed an associate coroner for the County of York.

Dr. T. S. T. Smillie, M.P.P. for Fort William, will resign his seat and accept the High Court Clerkship at Port Arthur.

A Greek immigrant at North Bay was taken ill with cerebro spinal meningitis, and died in a few days. He was strictly quarantined.

Dr. Hastings has been visiting isolation hospitals in the States, and will recommend some important changes in Toronto.

Dr. Forbes Godfrey, M.P.P., Mimico, has returned from the West Indies fully recovered from his recent illness.

In the by election in Oakville, Dr. Urquhart was elected reeve to fill the vacancy caused by the death of J. C. Ford.

The tuberculosis car travelled 1,888 miles throughout Ontario, and exhibited in 51 places. It was used as a means of educating the public.

A special committee is hard at work to look for a new site for the Hamilton City Hospital.

The Canadian Association for the Prevention of Tuberculosis will hold its annual meeting in London on 18 and 19 May.

Dr. J. A. Butler, who was for some time at the New York Post Graduate School, has commenced practice at 124 Kendall Ave., Toronto.

The Queen has consented to be patroness to the Canadian Order of Nurses.

Smallpox has been setting up a scare in Ottawa. All this trouble and cost could be avoided by making use of the protective power of vaccination.

Robert Law, Medical Health Officer for Ottawa, around whom so much strong criticism has circulated of late, has resigned. A successor will be appointed at once, at \$4,000 a year.

Dr. T. J. Rigby, of Toronto, was charged for practising without a license. He was acquitted, as those called as witnesses stated he had made no charge and had not been paid any fee.

In January, the Toronto Medical Inspectors of the public schools detected 195 cases of scarlet fever and 66 of diphtheria. In February the numbers were 227 of scarlet fever and 58 of diphtheria.

An order was issued a short time ago by Dr. Law, Medical Health Officer for Ottawa, that about 400 Government employees would have to be vaccinated or submit to quarantine.

A short time ago smallpox appeared in several families in the Township of Augusta, near Brockville. The school was closed and a number of persons quarantined.

The Governors of the Kingston General Hospital have refused to allow the Mowat Memorial Tuberculosis Hospital to be built on the hospital grounds.

It is expected that the Board of Trade of Toronto will give considerable attention in the future to sanitary matters. This is in the right direction.

It is still necessary to boil the water in Toronto. It is said to contain so many bacteria that these require cooking, as so much raw material might derange digestion.

Active steps have been taken to secure a new joint hospital for Walkerville and Windsor. A committee has been appointed to make financial arrangements and look for a site.

Dr. W. B. Kendall, physician-in-chief of the Muskoka Cottage Sanatorium and the Muskoka Hospital for Consumptives, has returned after a three months' trip in Britain, Germany, Switzerland, and elsewhere, visiting institutions for the treatment of tuberculosis.

The Medical Health Department for Toronto has arranged with 36 druggists in the city to keep the swabs, glass slides and bottles for the

taking of specimens of diphtheria, typhoid fever, and tubercular sputum. These are examined free and reported upon at once.

Dr. J. G. Fitzgerald, lecturer in bacteriology, University of Toronto, has resigned to accept the position of assistant professor of bacteriology in the University of California. Dr. Fitzgerald will spend the summer in Germany.

A number of cases of smallpox has appeared in the northern part of Hastings County. Dr. J. W. S. McCullough, the secretary of the Provincial Board of Health, sent orders for proper isolation. There were also several cases in Renfrew County, and a similar order was sent.

Messrs. J. R. Booth, J. H. Burland, W. C. Edwards, E. H. Bronson, H. J. McLachlin, Clifford Sifton, John Manuel, G. H. Perley, W. H. Rowley, and Mrs. H. M. Amie, and Mrs. V. Carhagne, each gave \$500 a short time ago for the maintenance of the Victorian Order Convalescent Home for typhoid fever.

Returns of contagious diseases in the province for last month compare very favorably with the returns for the same month last year, with the exception of scarlet fever, which has been prevalent in some parts of the province in a mild form. There were 707 cases of scarlet fever, with 24 deaths. Of measles 369 cases were reported, with 8 deaths; typhoid, 300 cases and 41 deaths; and tuberculosis, 127 cases and 91 deaths.

There is a movement on foot for the establishment of a free dental clinic for the poor children of Toronto. A committee has been appointed to look into the matter and report. The committee consists of C. Lewis, Mrs. Dr. Oughton, C. C. VanNorman, J. K. Macdonald, S. Arnold, D. A. Carey, John Loftus, Dr. John Ferguson, Dr. R. G. McLaughlin, Dr. F. C. Conboy, Dr. R. J. Reade, Dr. J. B. Willmott, and Ald. Yeomans.

The real purchasers of "The Homewood," 13 Homewood Place, the home of Mr. Frederic Nicholls, were several Toronto physicians, who will establish a modern private hospital. A little less than \$100,000 has been paid for the property, and \$125,000 more will be spent in alterations and equipment. A large wing will be added and set apart for an operating room.

QUEBEC.

The Provincial Board of Health has issued an order making vaccination compulsory throughout Quebec.

Dr. J. Alex. Hutchison, of Montreal, and Surgeon to the Grand Trunk System, is having a holiday in the Mediterranean.

The Royal Victoria Hospital, Montreal, admitted during 1910, 4,309, and treated in the out-door departments 4,532.

Montreal is to have a complete filtration plant to cost \$2,000,000 and with a capacity of 50,000,000 gallons per day. A large area of land near Verdan has been acquired for the purpose.

The Congress of Hygienists of the Province of Quebec which was held a short time ago was a unique success. The papers on public health were very valuable and timely.

The Montreal General Hospital last year treated in its wards 3,586 patients. There were 272 deaths. There were treated in the outdoor departments 13,588.

It was announced at McGill University recently that the Board of Governors have appointed to the vacant chair of physiology (faculty of medicine), Dr. N. R. Alcock, lecturer in physiology in St. Mary's Hospital Medical School since 1904, and vice-dean of the school.

It has been decided by the Provincial Health Department of Quebec, and sanctioned by Sir Lomer Gouin, to divide the province into ten sanitary districts, each under the direct supervision of an inspector specially trained for the post. Special courses will be arranged in all the leading medical schools of the province to prepare for the examination, which must be passed before a candidate is properly qualified. As it will take some time to prepare men for this very important position, it is believed the system cannot be formally adopted until July, 1912.

The French Medical Society of Montreal held a banquet a short time ago. The orator of the evening was Sir Lomer Gouin. He spoke of the splendid work the medical profession was doing for the health of the people. He said it was a real banquet when the sons of Aesculapius were the hosts. He referred to the words of the Evangel to remember the doctor on account of thy necessities. Further, he said he was the son of a physician. Sometimes on the battlefield, sometimes harassed about his patients, often severely fatigued, so human, so calm, so philosophical, so confident, he understood how such a life consecrated the physician.

WESTERN PROVINCES.

The Shipmasters' Association in Vancouver, B.C., are making an effort for a seaman's hospital.

Dr. J. M. P. Chalmers, of Vancouver, spent a pleasant four months' trip through Eastern Canada and the United States.

The Vancouver General Hospital treated 4,184 patients during 1910. The percentage of deaths was 5.87.

The Province of Saskatchewan has voted \$25,000 for an anti-tuberculosis sanitarium. Dr. Seymour has done much educational work.

The examination fee for the College of Physicians and Surgeons of Saskatchewan is \$50.

A branch of the St. John's Ambulance work has been organized in Regina. Other branches are to be formed throughout Saskatchewan.

Dr. J. W. Mohan has removed from Fillmore, Sask., to Regina. Dr. L. F. Cutten, of Wolseley, has taken his practise in Fillmore.

Dr. Ella Synge, of Edmonton is leaving for California, and will be succeeded by Dr. Mary Iles, of Victorian Hospital, Delhi, India.

In Vancouver there is a very thorough system of public school inspection. Dr. Brydone-Jack has introduced a card system that gives all necessary details.

Regina has appointed a school nurse. This is the first city in Saskatchewan to make this movement towards looking after the health of the school children.

The Grey Nurses are erecting handsome new hospital buildings in Regina. The institution will have every modern facility for clinical work and the treatment of patients.

Dr. Charles H. Vrooman, late superintendent of the Manitoba Tuberculosis Hospital, has gone to take charge of the Nanquille Sanitarium, B.C.

The *Western Medical News* is again insisting that the Medical Council for Saskatchewan should give an account of the funds on hand, somewhat over \$25,000. The journal is right in this. These things should be done at once and fully.

The Sanatorium for the treatment of tuberculosis patients at Fort Rouge was destroyed by fire. The origin of the fire was traced to the furnace. The building was almost completed, and was to have been handed over shortly to the city of Winnipeg.

FROM ABROAD.

Dr. Charles A. Oliver, the eminent ophthalmologist of Philadelphia, died 8th April, of ureamia, in his 57th year.

The Birmingham Hospital Saturday Fund has since its foundation collected the large sum of £430,000.

The total receipts for the past year to the King Edward Hospital Fund amounted to £205,169.

The late Sir Francis Gatten left about £45,000 to the University of London in furtherance of the study of national eugenics.

The 13th annual meeting of the American Proctological Society will be held in Los Angeles, Cal., on 26th and 27th June, 1911.

The common drinking cup has been abolished in New York. The order of the Board of Health comes into effect 1st October.

James A. Patten, of Chicago, the wealthy grain dealer, has given two million dollars for a tuberculosis fund for the study and prevention of the disease.

The United Friendly Societies of South Australia propose establishing dispensaries in connection with their lodges. This is being strongly opposed by the medical profession.

Recent estimates show that the population in India during the past 10 years increased 7 per cent., in Austria the rate was 9 per cent., and in Hungary by 8 per cent.

Dr. William Warren Potter, a well known Buffalo specialist on obstetrics and gynecology, and editor of the *Buffalo Medical Journal*, died on 14th March.

The *Australasian Medical Gazette* takes the position the Government medical officers should be paid sufficient salary to enable them to refrain from practice. They ought not to receive a certain salary and then compete with others.

Sir David Ferrier was entertained at a complimentary dinner, given by King's Hospital men in honor of his being knighted. The Knighthood and the complimentary dinner were both well earned by Sir David Ferrier the distinguished investigator of cerebral localization.

Dr. John Knott, in a letter to the *Medical Press and Circular* calls attention to the fact that Jean Paul Marat, "the sanguinary philanthropist of the *Red Terror* of the most purple period of the French Revolution," was an M.D. of St. Andrew's University.

Recently it was proposed to levy a tax on bachelors of 35 years and over to enable the State of Illinois to pay a bonus of \$100 to each married woman who had a child within two years of her marriage, and for each succeeding child born within two years from the previous one.

Hookworm disease is most prevalent in the Carolinas and Georgia. In many districts from 40 to 80 per cent. of the school children are affected. Literature is being circulated, informing the people of the symptoms, the prevention and the treatment.

Nursing has become popular among the titled in Britain. Among notable ladies who are nursing may be mentioned Earl Verulain's daughter, Lady Esher, Lady Annesley, Lady Blackwood, Lord Dufferin's sister, Lady Stanhope, Lady Northcote, Lady Greseldo Cheape, and Lady Keith-Falconer.

It is proposed in Melbourne, Victoria, to found a Friendly Society's Hospital. There are in Victoria 140,000 members of friendly societies. A contribution of one shilling a year from each would bring in £7,000. The promoters of the scheme state that in another year there will be £14,000 on hand for the hospital.

In Ceylon there are 73 government hospitals with beds ranging from 30 to 425. There are 588 government and 220 planter dispensaries. The lunatic asylum is situated in Colombo. The Leper Asylum has

345 patients. There is also a home for incurables with 80 beds. Ceylon is doing very well in this regard.

Dr. W. H. Allen, director of the New York Bureau of Medical Research, points out that in 1910 of the sums left by citizens for public benefactions, \$163,000,000 was expended on charities of some sort, and \$19,100,000 for health purposes. He contends that too much is spent in the treatment of disease and not enough in its prevention.

Sir Thomas Shaughnessy said recently in Paris that "A war now and then acts, after all, as a sort of clearance of the surplus population." It might be a good plan then to spread the plague, cholera, etc., as much cheaper methods of carrying out Sir Thomas's ideas. Sir Thomas wouldn't likely subscribe to his own doctrines if it included railway wrecks and he the chief victim.

Rosa and Jasofa, the new Siamese Twins, had a strange experience. Owing to a breach of contract, an order was issued for the arrest of Jasofa. This meant the wrongful arrest of Rosa, for which the constable got into serious trouble. He ordered the release of Rosa, which meant the release of Jasofa, and for this the judge was said to have committed a contempt of court.

Dr. Andrew Smart, who spent his working years in Edinburgh, died a short time ago in London in his 87th year. He was among the very first to clearly apprehend the bearing of living organisms in disease. His researches on Rinderpest in 1865 began a new era in medicine. He worked out his arguments steadily and carefully, and is now regarded as one of the pioneers in this great field of medicine.

The Brown Dog of Battersea, by a vote of 40 to 14 in the municipal council has been taken down and destroyed. The misguided anti-vivisectionists sought to embody their protest against experiments on the lower animal by the erection of the Brown Dog Memorial. It caused much agitation and has now been removed by public authority, backed up by public opinion.

Dr. James C. Hepburn, who for many years was a medical missionary in Japan, celebrated recently his 96th birthday at East Orange N.J. Along with two other missionaries he made the first translation of the Bible into Japanese. On his 90th birthday he was presented by the Emperor of Japan with ensignia of the third class of the Imperial Order of the Rising Sun.

London Society is devoting itself to charity functions during the closing fortnight of Lent. The most original of these is an exhibition of Coronation tiaras by New Bond Street jewelers, with guinea admission tickets. Less pretentious has been a "Saloon Fragrant," with 1,000 guineas raised by the sale of perfumery by handsome actresses. There

are also Royal dance matinees and numberless devices for reducing "cadging" for the hospitals to a fine art.

Professor Benjamin Moore, of the University of Liverpool, has made some very strong statements on how things are being done in Britain. He condemns the tinkering with disease rather than the stopping of it. He contends that all the health matters of the United Kingdom should be placed under the care of a Health Department. Professor Moore estimates that tuberculosis in loss of time and loss of life costs Britain each year \$210,000,000.

BOOK REVIEWS.

PRACTICAL TREATMENT, VOLUME II.

A Handbook of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by John H. Musser, M.D. Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M.D., Assistant Professor of Medicine, University of Pennsylvania. Volume II: Octavo of 865 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Per volume: Cloth, \$6.00 net; half morocco, \$7.50 net. Canadian agents, the J. F. Hartz Company, Limited, Toronto.

This second volume deals with a wide range of subjects. With the exception of 175 pages at the beginning, the book is taken up with articles and infections and parasites. The first article is a lengthy one and treats of diseases of the cardio-vascular system. It is from the pen of Sir Clifford Allbutt, and is written in splendid style, both as to form and matter. Had we nothing else from Sir Clifford Allbutt, this alone would be enough to mark him out as far above the average contributor. There are a few pages on the surgery of the heart, by Clinton T. Dent. The rest of the volume deals with the infectious diseases. These articles are from well-known writers. These names are Drs. Cole, Finney, Hare, Weaver, Jopson, Otis, Pearce, Elting, White, Wood, Martin, Schamberg, Barker, Carroll, Stengel, Bloodgood, McGlannan, Hamill, Dyer, Anderson, Rosenau, De Schweinitz, Richardson, Goldthwait, and Riesmann. The work is essentially of a practical character, and deals with treatment and the prognosis of disease. The work is preëminently suited for reference. This volume, like the first one, is got up in the best possible style, and does marked credit to the publishers, who have spared no pains to give the profession a thoroughly useful work on "Practical Treatment." The editors have displayed sound judgment in the selection of the contributors. This is the sort of work that should have a wide circulation.

DIAGNOSTIC METHODS.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with additions, by Nathaniel Bowditch Potter, M.D., Assistant Professor of Clinical Medicine, College of Physicians and Surgeons, New York. Octavo of 1,229 pages, containing 472 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$6.50 net; half Morocco, \$8.00 net. Canadian agents, the J. F. Hartz Company, Limited, Toronto.

A volume of 1,229 pages on any one subject should be able to say a good deal about it. In this work by Hermann Sahli, there is an enormous amount of matter collected together and arranged for the use of students of disease. To be able to read the language of nature is one of the highest achievements of the human intellect. It has taken a long time and much labor to be able to read the language of disease. Morbid processes tell of their presence of by signs and symptoms, and to be able to tell from these what morbid processes are going is the work of the diagnostician. In the elucidation of the complex problems of detecting the disease and the changes it has wrought, this work of Professor Sahli's is most helpful. It is complete, it is profound, it is clear; system by system, organ by organ, sign by sign, test by test; one is led from step to step until the hidden conditions are revealed and disease is compelled to yield up its secrets and lay bare the morbid changes it has caused. The graphic method is made free use of, and thus there are nearly five hundred illustrations of some sort. There are a number of exceedingly handsome and well-finished colored plates. So far as diagnosis is concerned, this work covers the ground in a most exhaustive and thorough manner. We have only words of praise for this book.

 DIAGNOSTIC AND THERAPEUTIC TECHNIC.

By Albert S. Morrow, M.D., Adjunct Professor of Surgery, New York Polytechnic. Octavo of 850 pages, with 815 original line drawings. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.00 net. Canadian agents, the J. F. Hartz Company, Limited, Toronto.

This work is designed to be one for ready reference in a variety of procedures that are very likely to occur in the daily work of every practitioner. It is, therefore, intended to be of a practical character. The remarks on each subject are brief, but clear, and the directions on treatment well stated. Operations as a rule are omitted. The work opens with two excellent chapters on general and local anesthesia. There are chapters on transfusion of blood, infusion of normal salt solution, the injection of drugs, Bier's treatment, exploratory punctures, aspirations, etc. Then follow special chapters on the different organs of the body. The scope of the

work is comprehensive. The book is profusely illustrated, and the cuts and designs are mostly original. Everything about the book in its mechanical, literary, and artistic make up, is worthy of recommendation.

VAGINAL CELIOTOMY.

By S. Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 450 pages, with 148 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.00 net; half morocco, \$6.50 net. Canadian agents, the J. F. Hartz Company, Limited, Toronto.

In order to produce a book such as this is the author must have devoted an immense amount of time and thought to it. The text is so clear and precise that one can hardly imagine any word that could be omitted or added. The plates—for the book is really one of plates—are quite outside the range of criticism—they only call for praise. Each illustration is a full page plate, with a carefully prepared description of what it sets forth. What is printed and what is pictured, taken together, make the study of vaginal celiotomy both pleasurable and profitable. As many pelvic diseases and new formations must be treated through the vaginal route, the author has done the medical profession and the host of afflicted ones a signal service in placing this section of the surgeon's and gynaecologist's work in so complete a form. The appearance of the book is like an edition de luxe.

AMERICAN MEDICAL ASSOCIATION'S BOOK ON NEW REMEDIES.

New and Nonofficial Remedies, 1911: Containing descriptions of articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1911. Price, paper, 25 cents; cloth, 50 cents. Pp. 282.

This is the 1911 edition of the annual New and Non-official Remedies, issued by the Council on Pharmacy and Chemistry of the American Medical Association, and contains descriptions of all articles approved by the Council, up to Dec. 31, 1910. There are also descriptions of a number of unofficial non-proprietary articles which the Council deemed of value. The action, dosage, uses and tests of identity, purity and strength of articles are given.

In the arrangement and the scope of individual descriptions, the present edition does not differ widely from the 1910 edition, but it contains about twenty-five additional pages, these being required to describe the articles accepted by the Council during 1910.

Besides indicating to physicians the proprietary articles which the Council's examination has found to be honestly marketed, and containing accurate descriptions of these articles, all similar articles are arranged under group headings; thus the physician at a glance can learn the atoxyl and soamin are practically identical articles, and that arsacetin is a closely related body. Again, the several proprietary solutions of the blood-pressure-raising principle of the suprarenal gland are listed under a general title "epinephrin," and the manner in which the solutions differ from each other can be learned at a glance. In the same way, the medicinal foods are brought together and their relative value compared.

GOEPP'S STATE BOARD QUESTIONS AND ANSWERS.

State Board Questions and Answers by R. Max Goepf, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second Edition Revised. Octavo volume of 715 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$4.00 net; half morocco, \$5.50 net. Canadian agents, the J. F. Hartz Company, Limited, Toronto.

The large volume contains questions and answers on almost every topic in medicine and surgery. The answers have been prepared by experts on the various subjects of chemistry, physiology, anatomy, gynaecology, etc. They are models of terseness and clearness. A very complete index adds much to the usefulness of the book. Any subject to be looked up in a moment and the answers found. The book is rich in information.

606.

Oxford Medical Publications, 606, in Theory and Practice. By Geheimrat Professor, Dr. Paul Ehrlich and J. E. R. McDonagh, F.R.C.S., Surgeon to Out Patients, London Loch Hospitals. London; Henry Frowde, Oxford University Press; Hadder and Stoughton, Warwick Square, E.C., 1911. Price, \$2.50. Toronto: D. T. McAlinsh.

This volume of 143 pages, octavo, sets out the treatment of syphilis with salvarsan, and the results of the same. It is deduced from Mr. McDonagh's very large experience. He sets forth the discovery of the preparation, the harmful effects are given, the clinical methods are mentioned, the practical uses are dealt with, syphilis of the nervous system, congenital syphilis, and warnings. There is a review of 270 cases. The book is a very interesting one. We commend it very highly.

Professor Ehrlich writes a preface in which he speaks highly of Mr. Donagh's results and methods.

PUBLIC HYGIENE.

By Thomas S. Blair, M.D., Neurologist, Harrisburgh, Pennsylvania, Hospital. Author "A Practitioner's Handbook of Materia Medica," "A Practitioner's Handbook of Modern Treatment," etc. Assisted by numerous contributors. In two volumes. Volume I., with 158 illustrations. Richard G. Badger, The Gorham Press, Boston.

Volume one contains over 300 pages. It is well illustrated and well bound. The paper is good and the type clear. The volume covers a wide range of subjects. This work is prepared very largely from the publicist point of view. It deals with public buildings, boards of health, slums, etc., etc. The material of the volume gives evidence of much care in its collection and preparation. It is a very valuable work.

INTERNATIONAL CLINICS.

A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, etc. Edited by Henry W. Cottell, A.M., M.D.

This volume contains some excellent articles on treatment, medicine, paediatrics, surgery, ophthalmology, physiology, anatomy, biology, and tropical medicine. There is also a carefully prepared review of medicine during 1910. We can recommend this series.

REPORT OF ONTARIO BOARD OF HEALTH.

The report, the twenty-eighth in number, is a very fine one indeed. It contains much useful information on the health matters of the Province. We would like to see this report carefully studied by the medical profession and not thrown aside as is too often done with reports. The report is got up in attractive form.

OBITUARY.

JAMES BELL, M.D.

Dr. James Bell, of Montreal, one of the oldest and ablest surgeons in America, died on 11th April of pneumonia. He had been in excellent health till a week before, when he took ill at a clinic. On Monday he was removed to the Royal Victoria Hospital. Dr. Bell was very

well known in medical circles, as he took a lively interest in medical society work. At the time of his death he was chairman of the Finance Committee of the Canadian Medical Association. He was known as a contributor from time to time to the pages of medical journals. His death will prove a severe loss to the staff of the Royal Victoria Hospital and to the interests of sound medical teaching in Montreal. Of Dr. Bell it could well be said:

“His life was gentle, and the elements so mixed in him that nature could stand up and say to all the world: ‘This was a man.’”

H. B. HUTTON, M.D.

Dr. Hutton, of Humberstone, died suddenly of heart disease on 8th April. He was thirty-nine years of age. His body was interred in London. He had built up a good practice and was much esteemed by his patients.

ELIZABETH M. HENDERSON, M.D.

Dr. Elizabeth M. Henderson, of Hamilton, died in that city on 26th March.

R. P. NICHOLLS, M.D.

Dr. Nicholls, of St. John, N.B., died in Bermuda, March 6th, 1911. He had gone there for his health. He was much respected in St. John, where he had a large circle of friends.

J. B. FREEMAN, M.D.

In the death of Dr. Freeman, Bridgetown, N.S., lost one of her finest citizens. His death occurred on the 27th February.

MISCELLANEOUS MEDICAL NEWS.

BEAUTIFUL NAMES FOR WOMEN.

“What beautiful names we find in the exquisite language of the Greeks,” sighed Dr. Ben Trovato, who was feeling cynical; “can one imagine more musical and attractive prænomena for wives than Aphasia and Aponia?”

DR. SAMUEL GARTH ON DISEASE.

The following passage from a poem by Dr. Garth, a contemporary of Dryden, is interesting.

“Febris is first: The Hag relentless hears
 The Virgin’s Sighs; and sees the Infant’s Tears.
 In her parch’d Eyeballs fiery Meteors reign;
 And restless Ferments revel in each Vein.
 Then Hydrops next appears amongst the Throng;
 Bloated, and big, she slowly sails along.
 But, like a Miser, in Excess she’s poor;
 And pines for Thirst amidst her wat’ry Store.
 Whilst meagre Phthisis gives a silent Blow;
 Her Stroaks are sure; but her Advance slow.
 No loud Alarms, nor fierce Assaults are shown:
 She starves the Fortress first; then takes the Town.”

 BANQUET TO DR. J. N. E. BROWN BY STAFF OF GENERAL HOSPITAL.

A complimentary banquet was tendered Dr. J. N. E. Brown on the evening of 8th April at the York Club by the members of the medical staff of the Toronto General Hospital, on the occasion of his retiring from the Superintendency of that institution. Dr. Bingham was Chairman, and Dr. Brown was presented with an illuminated address, which was read by Dr. Wishart.

The address told of the six years of successful administration of Dr. Brown at the hospital, of his excellent equipment for the post, and assured him that a wonderful degree of harmony in the working of the whole complicated machinery of the hospital had been effected under his management. Dr. Brown was especially commended for faithfulness in the discharge of duty, for constancy to his post, late and early, and for never-varying courtesy, sympathy and good temper in dealing with the difficult and heterogeneous situations which occur daily in hospital management. Reference was made to the fact that he had added prestige to the hospital abroad by his mastery of the technique of hospital administration and by his publications thereon.

Dr. Brown replied, expressing gratitude for the honor tendered him, and gave to the members of the hospital staff much credit for the success of the institution.

Dr. R. A. Reeve presented Dr. Brown with a beautiful silver salver and spoke in a very laudatory and kindly manner of Dr. Brown’s ster-

ling qualities and the splendid work he had done as Superintendent of the hospital. Dr. Bruce, Dr. Cameron, Dr. Temple, Dr. Grasett, Dr. Adam Wright, Dr. Baines and Dr. Ross also spoke in a similar strain, and expressed their deep regret at the loss the General Hospital would sustain in Dr. Brown's departure.

The following members of the staff attended the dinner:—Drs. McPhedran, W. P. Caven, Chambers, Primrose, McIlwraith, Fotheringham, Thistle, D. C. Meyers, Johnston, Gordon, Trow, C. L. Starr, F. Starr, Marlowe, MacLennan, Malloch, Harold Parsons, Goldie, Joseph Graham, O. R. Mabee, Geoffrey Boyd, King Smith, Richardson, G. W. Ross, Colin Campbell, Goldsmith, Kinneer, Howland, Hendry, Royce, Burson, Lowry, McMillan, Strathy, A. A. Beatty, W. Jones, J. A. Roberts, Gallie, Shenstone, Cole, Hendrick, John McCollum, Arthur Wright, W. Mabee, and Robertson.

TORONTO GENERAL HOSPITAL EX-HOUSE SURGEONS' BANQUET.

When fifty medical men foregather for an annual celebration, more than the usual quota of good cheer and conviviality is bound to be the result and such was the case on 13th April at the Albany Club, where the annual dinner of the Toronto General Hospital Ex-House Staff Association, was held with much eclat. Many and various were the toasts, and the speakers, and a more serious note was sounded by Dr. C. D. Parfitt, of Gravenhurst, who delivered the oration, his text being, "Our Present Attitude Towards Tuberculosis." The hospital gold-headed cane, which is entrusted each year to the member who has accomplished the best piece of original research work during the period, was surrendered by Dr. T. S. Cullen, the late holder, and presented to the winner, Dr. A. H. Caulfield, by Dr. J. F. W. Ross, on behalf of the trustees.

The retiring president, Dr. G. B. Smith, occupied the chair, and new officers were elected as follows:

President, Dr. R. M. Hillary, Aurora; Vice-President, Dr. J. N. E. Brown, Toronto; Secretary, Dr. H. C. Parsons, Toronto; Treasurer, Dr. N. J. Yellowlees, Toronto; Committee, Drs. J. H. Mullin, Hamilton, Samuel Johnston and William Mabee, Toronto.

LEGIBLE..

Horace Greely, though not a doctor of medicine, was a miserable writer as far as chirography was concerned. It was related of him that

one of his editorials came into the composing room in an unusual illegible state. Though the compositors were up on Horace, yet in this particular case they flunked. One of them, in desperation, remembered a drug clerk near by who had a reputation for reading illegible prescriptions. He took the editorial down to him and handed it to him without a word. The drug clerk took it in the spirit with which it was given, regarded it a moment, went behind the prescription counter, and in a few minutes returned with a four-ounce bottle neatly tied up, and said: "A teaspoonful every three hours. Seventy-five cents, please!"

CONTAGIOUS DISEASES IN ONTARIO.

Reports from local Boards of Health show a decided increase in cases of scarlet fever in the Province during the past month, the total being 707, the most for many years.

The number of cases of typhoid continues large, several new outbreaks being reported. Comparative figures are:

	March, 1911		March, 1910	
	Cases	Deaths	Cases	Deaths
Ant. poliomyelitis.....	3	1
Cerebro-spinal meningitis...	7	7
Smallpox.....	52	1	81	0
Scarlet fever.....	707	24	357	20
Diphtheria.....	176	24	204	28
Measles.....	369	8	570	11
Whooping cough.....	22	4	24	13
Typhoid.....	300	41	162	45
Tuberculosis.....	127	91	196	167
Totals.....	1,763	201	1,594	284

RESULTS OF MEDICAL EXAMINATIONS OF QUEEN'S UNIVERSITY.

Degree of Doctor of Medicine and Master of Surgery.—W. R. Bateman, Thomasburg; M. R. Bow, Regina; F. C. Boyd, Kingston; F. C. Bracken, Seely's Bay; J. E. Carmichael, Strathcona, Alta.; S. G. Chown, Kingston; W. Y. Cook, Allandale; L. J. Corrigan, Kingston; C. M. Crawford, Kingston; R. A. Dick, Bolton; M. J. Gibson, Kingston; F. W. Gravelle, Portsmouth; W. R. Hambly, Napanee; P. H. Huyck, Kingston; J. V. Jordan, Smith's Falls; G. B. Hendricks, Regina; P. J. Kennedy, Portsmouth; A. Lipman, Kingston; G. B. McCarthy, Thorold;

A. W. Macbeth, Lumsden, Sask.; E. F. J. Mathews, Orangeville; H. Mohan, Liverpool, England; N. E. MacDougall, Cana, Sask.; M. A. Mackay, Lemberg, Sask.; J. G. McCannon, Gananoque; R. V. McCarley, Edmonton; C. E. McCutcheon, Seely's Bay; J. J. McDermott, Kingston; J. P. Dermott, Eganville; M. H. McDonald, Sudbury; A. C. McGlenon, Colborne; J. McKenzie, Unity, Sask.; L. H. O'Meara, Fallowfield; J. O'Rielly, Humboldt, Sask.; B. C. Pamerson, Hallville; R. R. Paul, Fort William; G. W. Pringle, Madoc; G. A. Puglow, Kingston; A. J. Randall, Seely's Bay; J. M. Ravary, St. Armour; A. G. Scott, Eden, Man.; R. A. Simpson, Chapman, N.B.; E. E. Steele, Grenada, B. W. I.; G. E. Thwaites, Trinidad, B. W. I.; S. E. Thompson, Kingston; H. C. Wallace, Lumsden, Sask.; W. E. Wilkins, Verona.

The prize of the Chancellor, Sir Sandford Fleming, \$70, for the highest percentage on the four years' work, was won by F. C. Boyd, Kingston.

The medallists are:—In medicine, F. C. Boyd; in surgery, R. V. McCarley, Edmonton.

OFFICERS OF THE TORONTO ACADEMY OF MEDICINE.

President, N. A. Powell; Vice-President, R. A. Reeve; Past President, A. A. Macdonald; Treasurer, W. A. Young; Secretary, Harley Smith; Chairman of of Sections, medicine, G. Chambers; Surgery, H. A. Bruce; State medicine, J. W. S. McCullough; Councillors, John Ferguson, A. McPhedran, F. N. G. Starr, W. H. B. Aikens, J. F. W. Ross, John Malloch; Trustees, J. F. W. Ross, N. A. Powell, R. A. Reeve.

MEDICAL PREPARATIONS, ETC.

THE WEIGHT OF EVIDENCE.

If professional endorsement of the therapeutic efficacy of a remedy of recognized reputation, further supported by a successful existence of over a quarter of a century counts for anything, it must then be logical to presume that such a product is worthy of a trial in conditions where it is clinically indicated.

No greater an authority upon Gynecological Diseases than Sims could be quoted, and from the fact that he prescribed and recommended the use of Hayden's Viburnum Compound in certain Gynecological and Obstetrical conditions, is weighty evidence of its therapeutic efficiency and reputation which it enjoyed with the older members in the profession.

That it has continued to serve as a satisfactory remedy since the time of Sims, in the treatment of Dysmenorrhœa, Menorrhagia, Metrorrhagia, Threatened Abortion, Rigid Os, etc., its increasing popularity with the profession indicates which should warrant it worthy of a trial in these diseases, when they are presented to you.

To those physicians not familiar with the genuine H. V. C., as originated by Dr. Wm. R. Hayden, a sample with formula and literature will be forwarded upon request to the New York Pharmaceutical Co., Bedford Springs, Bedford, Mass.

A VALUABLE LOCAL ANESTHETIC IN ANO-RECTAL SURGERY.

In view of current interest in Quinine and Urea Hydrochloride as a local anesthetic, a report of Dr. Louis J. Hirschman, of Detroit, which appeared in a recent number of the Cincinnati *Lancet-Clinic*, has peculiar pertinency. Dr. Hirschman reports a total of 102 operations, comprising acute thrombotic hemorrhoids, internal hemorrhoids, interno-external hemorrhoids, external hemorrhoids, fistula in ano, perineal abscess, fissure in ano, excision of scar tissue, Ball's operation (pruritus ani), hypertrophied papillæ, and inflamed Morgagnian crypts. Perfect results were obtained in every case so far as operative anesthesia was concerned, and in but seven cases was there any post-operative pain. The doctor uses the one per cent. solution in all of his cases of ano-rectal surgery when suturing of the skin is required. The technique of administration is the same as that with weak solutions of cocaine and eucaine.

Dr. Hirschman believes that the substitution of Quinine and Urea Hydrochloride for any of the other anesthetic salts hitherto employed will prove eminently satisfactory in all cases of ano-rectal surgery in which suturing of the integument is not required. He sums up its advantages as follows: it is soluble in water; it can be sterilized; it is equal to cocaine in anesthetic power; it is absolutely non-toxic; it has a pronounced hemostatic action; it produces persistent anesthesia; it is inexpensive.

Quinine and Urea Hydrochloride, in one per cent. sterilized solution, is supplied by Parke, Davis & Co. in sealed glass ampoules of five cubic centimeters capacity. An ampoule is opened by breaking off the tip, when the hypodermic needle can be inserted in the neck of the ampoule and the solution drawn into the syringe. Parke, Davis & Co., by the way, issue a sixteen-page brochure on "Local Anesthesia with Quinine and Urea Hydrochloride" which should be in the hands of

every physician and surgeon. The pamphlet details fully the uses of the new anesthetic, explains the technique of administration, and contains some valuable case reports. A copy may be obtained by writing the company at its home offices in Walkerville, Ont.

TO RELIEVE THE EFFECT OF SOLAR HEAT.

Direct exposure to the sun's rays; employment in or living in hot and poorly ventilated offices, workshops or rooms, are among the most prolific causes of headache in summertime, as well as of heat exhaustion and sun-stroke. For these headaches and for the nausea which often accompanies them, antikamnia tablets will be found to afford prompt relief, and can be safely given. Insomnia from solar heat is readily overcome by one or two antikamnia tablets at supper-time, and again before retiring. If these conditions are partly dependent upon a disordered stomach, two tablets with fifteen or twenty drops of aromatic spirits of ammonia, well diluted, are advisable. For the pain following sun or heat-stroke, antikamnia in doses of one or two tablets every two or three hours will produce the ease and rest necessary to complete recovery. As a preventive of and cure for nausea while traveling by railroad or steamboat, and for genuine *mal de mer* or sea sickness, antikamnia tablets are unsurpassed.

HOW TO ENJOY AN OUTING.

There are, no doubt, many important uses for antikamnia tablets, not usually thought of by physicians. Patients who take an antikamnia tablet before starting on an outing, and this includes tourists, picknickers, automobilists, bicyclists, and in fact, anybody who is out in the sun and air all day, will entirely escape that demoralizing headache which frequently mars the pleasure of such an occasion. This applies equally to women on shopping tours, and especially to those who invariably come home cross and out of sorts, with a wretched "sight seer's headache." The nervous headache and irritable condition of the busy business man is prevented by the timely use of one or two tablets. Every bicycle rider after a hard run, should take two tablets on going to bed. In the morning he will awake minus the usual muscular pains, aches and soreness. As a preventive of, and relief for the pains peculiar to women at time of period, antikamnia tablets are unequalled. If the pain is over the lower border of the liver, or lower part of the stomach, or in short, be it headache, side-ache, backache, or pain of any other description caused by suppressed or irregular menstruation, it will yield to two antikamnia tablets. This dose may be repeated in an hour or two, if needed.