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## SKETCH OF THE BEGINNING OF MEDICAL EDUCATION IN YORK, OR AS IT IS NOW CALLED, TORONTO.

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For several years before there was any regular medical school in Upper Canada- as early as during the "thirties," The late Hon. Dr. John Rolph, who is deservedly known as the "Father of Medical Education" in the Province, was in the habit of receiving pupils into his house in York (now Toronto) from various parts of the country, to whom he gave a very thorough medical education, which he was exceptionally well qualified to do. Born and thoroughly educated in England, he was one of the most highly gifted of the many prominent men of that day who, in various walks of life, made Upper Canada their home. Although a member of the legal profession, having been called to the bar in London, England, and a member of the Inner Temple, he was also a favorite pupil of Sir Astley Cooper, and a member of the Royal College of Surgeons of England. He loved the medical profession dearly, and was never happier nor more at home than when teaching its various branches to the young men whose good fortune it was to have so able and interesting a teacher. Some of his early pupils subsequently became distinguished, and many still occupy high positions as medical teachers and practitioners.

The Rebellion of 1837, which interfered with this work, however its occurrence may be regretted, proved to be an event which did much good to Canada in bringing about the peace, happiness, and perfect freedom she has now for many years past enjoyed. Dr. Rolph, who was a Hampden in his love of political freedom, was, as may be supposed, one of the leading reformers of the time, and sympathized with the movement in which he became more or less involved. The attempt at armed rebellion having speedily and fortunately failed, some of its promoters were arrested, and others fled the Province. Dr. Rolph was amongst the latter, and went to Rochester, U. S., where he resided and practised his profession till 1843, when the Canadian Legislature passed an act, of which he took advantage, permitting all exiles for political causes to return to Can-

ada. Several Canadian students went to Rochester during his residence there in order to get the benefit of his excellent teaching.

Immediately upon his return to Toronto he resumed his favourite work, and formed a medical school which very shortly became famous, and did as good work in medical teaching as has ever been done in Canada. This school for many years bore the name of its respected founder. The late Dr. Joseph Workman, a man of great ability and an excellent and highly educated teacher, became, at Dr. Rolph's request, and continued for several years, his most energetic helper. The Medical School soon stood so high that its tickets were received everywhere, and its students were exceptionally successful in passing their examinations before the Medical Board. It may be interesting to recall here that when the number of students had increased so as to require more accommodation than an ordinary private house could furnish, the class room first fitted up for them formed the end of a frame building in Dr. Rolph's yard. One part of this room had plain pine seats in it, ranged one above the other, while the table behind which Dr. Rolph and the other lecturers sat when they lectured was the vat in use for anatomical purposes. The rest of this room was provided with dissecting tables on trestles, and this constituted the dissecting room where a great deal of good dissection was done for a number of years. Only a thin wooden partition separated this medical college part of the building from the rest of it, in which were comfortably housed Dr. Rolph's horse and cow. So thin was this partition that while the medical students were drinking in their scientific knowledge as they listened to the lectures, or were working at their dissections, the four-legged occupants of the not distant stalls, who cared little and thought less about anatomy, medicine, and surgery could often be distinctly heard heartily enjoying their more substantial material aliment.

Humble as this building was, and small as such a beginning may appear when compared with the finely built and well equipped medical colleges of to-day, teaching of a very high order was given in it, and with a punctuality, earnestness, ability and fulness, not to be surpassed, and which is not now surpassed, anywhere in Canada. True, since those days the study of medicine has greatly advanced—some subjects now being taught as separate departments, which were then comparatively unknown—but what at that time was considered essential to a good medical education, viz., complete instruction in anatomy, physiology, materia medica and therapeutics, including the necessary knowledge of chemistry, medicine, surgery, midwifery and diseases of women and children, was there exhaustively given. It is indeed a question whether to-day the young men studying anatomy in any of our schools are better, or in most cases even as good anatomists as were the students of those days, al-

though the latter did all their work in so primitive a college building, and were not allowed the use of illustrated books or plates to any extent, but were obliged to study and trace out for themselves every part, great or small, of the human body, and were constantly and thoroughly examined in their work as they did it.

Dr. Rolph himself never neglected this latter essential part of a student's training. Speaking of the founding of his school in an Annual Announcement issued a good many years later, he says that his School of Medicine was founded in 1843, and incorporated by Act of the Legislature in 1851, so that this school was really the first medical teaching body established in Upper Canada, and it was from the first entirely self-supporting. In the summer of 1850 a great advance was made by this medical school. Dr. Rolph, at his own expense, built a new brick building adjoining his house on Queen St. West, the north side, a few doors west of Teraulay St. The upper part of this building was reached by a stair leading direct from the street, and consisted of two large rooms, one of these being nicely fitted up as a lecture-room, and the other as a museum. The latter had on its walls, and on both sides of a special arrangement which extended from one end of the room to the other, a very large number of carefully prepared anatomical specimens—the work of industrious, painstaking students. These preparations made the museum attractive and very useful to the more studious members of the medical classes. At the same time, the old Sunday School building of Richmond St. West, on the Knox Church property, and then as now, owned by that church, was rented and fitted up by Dr. Rolph as a second lecture-room. Half of this building is still standing, and may be easily seen inside a high fence, just opposite the Methodist Book Room. Some of the medical lectures were delivered in the Queen St. lecture-room and some in that on Richmond St., and the students had a short walk and some fresh air in going from one to the other. The old dissecting-room in the yard of the Queen St., house was still used, and did good service for some time. After these changes, which in themselves indicated prosperity, the school suffered for a short time from the withdrawal of Dr. Rolph, who re-entered political life and accepted a seat in the Cabinet in 1851. He returned to his college duties with great pleasure in 1855.

"*The Toronto School of Medicine,*" in 1854, by arrangement with the Board of Victoria College, became the medical department of that university—it being considered that such an arrangement would be mutually advantageous. The connection of the Medical School with this institution, while adding to the prestige and influence of the latter, would enable students who desired to do so, to proceed to their degrees in medicine instead of taking only the license of the Medical Board as heretofore.

In 1856 a large building, formerly used as a church on "Little Jarvis St., Yorkville" (now No. 10 Bismark Avenue), was purchased and fitted up for the newly-formed "medical department," and for a good many years afforded ample accommodation and every facility for medical teaching in the many subjects students have to study.

Some difference in connection with the school arose between Dr. Rolph, who was the Dean of the Faculty, and his colleagues, soon after these changes had taken place. Most of his colleagues had been educated in medicine chiefly, and some solely by himself. The Victoria College Board supported Dr. Rolph on its being appealed to in the matter. On this account his colleagues resigned in a body just the day after the opening of the session of 1856-7. The University authorities accepted the resignations which had been sent in, and directed the Dean, as the responsible head of the department, to fill the places of the gentlemen who had retired, as well and as speedily as he could. Although placed in an exceedingly difficult position, the Dean proved himself quite equal to the occasion. During the little more than two weeks it took him to complete new arrangements for carrying on the work of the session, Dr. Rolph alone, kept everything going on in the college. He lectured during this period four or five times every day on the various subjects to the entire satisfaction of the students, who, with hardly an exception, stood by their able teacher and Dean.

The high character of the Dean's teaching during this time, made it more difficult, than it would otherwise have proved, for the new professors whom he called in to his aid and appointed the vacant chairs. He soon succeeded, however, in filling these to his satisfaction, and throughout Dr. Rolph's Deanship, which lasted till 1870, this Medical School was singularly prosperous. He, for a time, continued to use the name as advertised when the arrangement with Victoria College was first entered into, which was "The Toronto School of Medicine—the Medical Department of Victoria College." The professors who had resigned as they constituted a majority of the members of the Corporation of the "Toronto School of Medicine," lost no time in renting a building from the University of Toronto, in which they established themselves under the old name of "The Toronto School of Medicine." They soon applied for an injunction to restrain Victoria College and Dr. Rolph from continuing to use the name of "The Toronto School of Medicine." The decision of the Court was adverse to the Victoria College and Dr. Rolph (who acted as his own counsel), and the injunction was granted on the ground that as "The Toronto School of Medicine" was a corporate body, no arrangement such as that alleged to have been made by "The Toronto School of Medicine" with Victoria College could be legally entered into without an Act of the Legislature authorizing the School to make such an arrangement, and that, as this had not been done, the arrangement made was le-

gally null and void. Unquestionably neither of the parties interested had thought of such a thing being necessary when the arrangement was entered into.

This decision was of no moment so far as Victoria College and Dr. Rolph were concerned. The students and the general public knew well that "Rolph's School," as it was called, was wherever Dr. Rolph was teaching, and the Medical Department of Victoria was thereafter advertised as such, with the addition of the words, "Commonly known as Rolph's School," which answered every purpose. From year to year, with the Dean at its head, this Medical Department steadily grew in public favour—year by year, and was for years the most largely attended Medical College in Canada.

Having become enfeebled somewhat by age, and disapproving of the course which at the time was adopted by Victoria University, he resigned his position as Dean in 1870 being then in his 78th year. Some of his colleagues who sympathized with him also resigned at the same time or very soon after and before very long Trinity Medical College was set by the writer which up to 1903—32 years—played a most important part in Medical Education in Ontario. It was very successful during its entire existence till it was unexpectedly put an end to in 1903 by amalgamation with the University of Toronto Medical Faculty.

The Toronto School of Medicine continued to teach, under this name, till 1887, when its members, with a few additions, became the Medical Faculty of the University of Toronto, under the University Act of that year.

Dr. Rolph, after his resignation, retired to Mitchell, Ont., but did not long survive his retirement. He died in Mitchell in 1870, and was buried there. More than twenty years later his remains were removed by his family, and buried in Mount Pleasant Cemetery, Toronto. Mrs. Rolph, who survived her husband a good many years, lies buried by his side. Dr. Rolph's grave is still without a fitting monument to a medical teacher of his zeal and ability.

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## ARTHRITIS DEFORMANS.

By F. W. E. BURNHAM, M.D.C.M., Winnipeg.

In the possession of the Royal College of Surgeons are bones obtained from Fayoum, a town of the xviii Dynasty, about 1300 B. C., which shew the unmistakable evidences of periostitis arthritis deformans and senile atrophy among the Ancient Egyptians.

The shafts of the long bones are uniformly covered with a thin layer of porous new bone, while the extremities exhibit the changes which are characteristic of arthritis deformans. The specimens are interesting in establishing the antiquity of a disease to be found in every quarter of the globe and accompanied by such definite pathological changes that its recognition is not difficult. Some authorities even in view of recent investigations have refused to consider it a disease *per se* and include under the general term osteo-arthritis, all the conditions which in the lay mind are attributed to rheumatic taint.

As the pathological features of arthritic affections are more carefully examined the dividing line, which in some cases for a time is not clearly defined, will in the majority be sufficiently clear to permit of a diagnosis.

If it be admitted that rheumatic arthritis is an infectious and, irrespective of the treatment pursued, a self limiting disease confined to the synovial membrane and leaving the joint in a condition approximating the normal, there will be no danger of confusing it with a disease which causes such definite and permanent changes as does arthritis deformans. The question is often asked whether arthritis deformans is not a frequent or occasional continuation or result of acute or chronic rheumatic arthritis.

The occurrence of the two diseases in the same anatomical structures con-jointly is doubtless possible but improbable. Clinically much may be said in favor of the identity of the two diseases but pathologically, they have little in common, and on more careful investigaton it will be found that the two rarely occur either consecutively or concurrently.

The non-occurrence of cardiac complications in arthritis deformans is a potent argument against the indentity of the two affections.

The prevalence of the disease among women in some statistics amounting to as much as eighty per cent. and among the laboring classes of congested districts is probably due to diminished vitality of the tissues, from deficient nourishment.

Debility is a factor which must be taken into account and as a senile change is productive of conditions in the joints which have erroneously been considered indicative of rheumatoidal change. Further reference will be made to this feature. The conditions which are usually accepted as the pathological indications of rheumatoid arthritis consist in fibrillation of articular cartilage followed by its subsequent removal accompanied by increased thickness of articular bone and its eburnation.

Bone is deposited around the margins of the articular surfaces, later in the ligaments, and even in the synovial membrame. The fibrillation of cartilage followed by its subsequent removal has been thought to be the distinctive feature of the disease. Fibrillation of cartilage however,

is merely a degenerative change and is found as such in Charcot's disease and in the senile state. Cartilage has but feeble vitality. In the senile state it would be expected that structures of low vitality would suffer first. Fibrillation of cartilage followed by its subsequent absorption, like the change in color of the hair with later falling out, occurs as a senile change and in no sense necessarily indicates arthritis deformans.

The absorption of articular bone in Charcot's disease and to a less extent in senile atrophy is a continuation of the degenerative process.

With the absorption of cartilage and articular bone the similarity of the two latter with rheumatoidal change ends.

In articles on the pathology of this disease the absorption of cartilage antedates eburnation of bone. This I think is not always in accordance with the facts. Sclerosis of articular bone with new bone formation, I take to be the primary change and the feature which distinguishes arthritis deformans from those arthritic affections which are of a purely degenerative nature. In arthritis deformans, partly to sclerosis of the subarticular osseous lamellae interfering with the vascular supply and partly to attrition is due the secondary degeneration and disappearance of cartilage.

The degree of the absorption of bone and the form which the articular ends assume are dependent upon mechanical causes and the density of the opposing articular surfaces.

The disease is supposed to attack by preference, the larger joints.

The reason of this possibly is, that the changes when limited to the smaller joints are not serious enough to call for treatment or are overlooked.

It is thought by some that the hips are most frequently attacked the phalanges being last and by others the order is reversed. It is not difficult to find numerous examples of rheumatoidal changes solely confined to one or more phalangeal articulation in people who complain of an increasing stiffness of the joints. Clinically the progressive and remittent forms may be recognized, in the former the process never leaving a joint until it has been rendered useless, the latter being characterized by periods of remission during which the disease may be said to be dormant.

The remission is responsible for much of the confusion in diagnosis, in this the attacks come on more or less acutely and after a variable period partially subside and come to a standstill, each recurring attack however, rendering the joint less useful. It is not surprising then that patients with the remittent type of rheumatoidal arthritis date their illness from what was supposed to be an attack of rheumatic fever.

In the simplest form it is found in the enlargement of the natural phalangeal tubercles, the so called Heberden's nodes. It is seldom that

these exist without collateral proof of rheumatoidal change. When confined to the phalangeal joints the process is slow and progressive and would in some quarters be looked upon as a case of end-joint rheumatism.

In a case now under observation of twenty years duration the disease was for a long period limited to the phalanges, was accompanied by muscular atrophy, deviation of the fingers to the ulnar side and outward deviation of the toes with considerable limitation of movement. The greatest deformity is in the feet, the joints being anchylosed in a deformed position necessitating arthrectomy to enable the patient to go about. The interest in the case is now centered in the fact that during the last two years the disease has attacked the cervical articulations resulting in limitation of movement. Flexion and extension are but slightly affected, while rotation is almost impossible. The muscular atrophy in arthritis deformans is a secondary phenomenon and the joint enlargement frequently only relative. In the paroxysmal type there is no hyperleucocytosis which should be a valuable aid in diagnosis as rheumatic arthritis is accompanied by an hyperleucocytosis of at most 20.000.

Time forms an important factor in the diagnosis. In the experience of those investigators in rheumatic arthritis to whose writings I have had access an attack rarely exceeds eight weeks so that for diagnostic purposes I would suggest putting a time limit of eight weeks on attacks of doubtful rheumatic arthritis, any case found exceeding this limit in duration should be viewed with very great suspicion.

If by the time the patient has reached middle age, the extremities have become crippled it is difficult for him to gain a livelihood and he not infrequently becomes a public charge. The disease can be studied to advantage in the large workhouse infirmaries where it is presented in its worst and most distressing form. The recognition of the pathological manifestations of the disease arthritis deformans in the progressive form is not difficult and in the remittent careful examination will reveal one or more of those changes which are characteristic of the effection.

The determination of the fundamental features of various pathological conditions is an interesting and profitable study. The existence of anatomical specimens which present advanced rheumatoidal changes and in which the cartilage is every where intact supports the contention that sclerosis of articular bone constitutes the characteristic pathological feature which distinguishes this malady from all other arthropathies.

# THE PROGRESS OF MEDICAL SCIENCE DURING THE PAST 35 YEARS.*

By W. H. MOORHOUSE, B.A., M.D.,
Dean of the Medical Faculty, Western University, London, Ont.

Mr. Chairman and gentlemen,—Allow me on behalf of the Faculty to thank you for the kind and hearty manner in which you have received this toast and, at the same time, to assure all who are here, that the Medical Faculty of the Western University, have now, as in former years, deeply at heart the welfare of all the students under their care, and, in saying this, I feel that I am echoing the sentiments of each and every member of the Faculty.

Owing to the Ontario Medical Act, passed about 35 years ago, our standard of medical education, in this Province, is as high as that found in any country, and higher than that which prevails in many countries. The standard of medical education, as you all know, is in the hands of The Ontario Medical Council, which, year by year, watches over the curriculum with a most zealous eye, lest some of its requirements be passed over lightly by some of the various teaching bodies. Your council keeps a keen watch over the advancement of medical science throughout the world, especially the improved methods of teaching in foreign schools, which are rapidly adopted and laid down in the curriculum for the guidance of the various teaching bodies or faculties in our Province, all of which are obliged to work up to this standard. The work of each medical school is thus put to a fair, practical test, inasmuch as the annual contingent from each school is subject to the same ordeal, which I am obliged to say, in justice to the Medical Council, is of a fair and practical character. Here there is an impartial test of the kind of teaching given in each school. I am also, in justice, obliged to say—and I say it with considerable pride—that the men from our school have done their Alma Mater credit and long may they continue to do so.

The life of a medical student is an arduous one during his college course—that is if he does it and himself justice.

When I look back through the past 35 years, and see how entirely changed is the curriculum of studies, how much has been added to it—old theories, which at that time were taught with minute care and exactitude, have now been exploded and a new order of things has taken place.

When I take a careful survey of some of the newer theories and innovations in the field of science, and especially in medical science, I am tempted to exclaim where will it all end? What great surprises are there still in store for us? There is no doubt that each decade will add its quota—for this is an age of keen investigation. In no other time of the

*An Address delivered at the Banquet of the London Medical College.

world's history have there been so many scientists and individual workers engaged in investigating disease and wresting from Nature the secrets of *life* and *death*, of *health* and *disease*.

Great discoveries are not made off hand, but are the results very frequently of accident, when some great truth has been partially revealed and worked up step by step, painfully and slowly, until the final result is reached. In this way was circulation of the blood discovered and announced to the world by Harvey, so also was it the same with Jenner and his immortal discovery—vaccination. So we may go all the way down the pages of medical history where we will find that many of our great discoveries have been through accident. But the men in whose hands these accidents occurred, resulting in great discoveries, were men of keen observation, who reasoned closely keeping carefully in view two great facts, namely, *cause* and *effect*.

Louis Pasteur, the Great French Chemist, the father of the "Germ Theory of Life," in contradistinction to "Spontaneous Generation," proved beyond doubt, in 1862, that decomposition and putrefaction were the results of microscopical organisms.

But it remained for a son of Britain to apply this principle of the Germ Theory of Life to disease. In his hands then it became the "Germ Theory of Disease."

About 35 years ago, Joseph Lister, then Clinical Surgeon at the Royal Infirmary, Edinburgh, began his series of experiments which culminated later in Antiseptic Surgery and Medicine, which has done so much for suffering humanity and has completely revolutionized the field of medicine and medical teaching.

If we look back over the pages of history, particularly in our own calling, we will find that these innovations were not, at first, received by the profession and the public at large in the right spirit. They were subjected to a form of persecution and derision; probably, on the part of the profession, it was prompted through envy, and on the part of the public, through ignorance.

Harvey tells us that after the announcement of his discovery, his practice fell off mightily, so much was he slighted and neglected. So also did Jenner suffer through neglect. I can well remember with what derision Joseph Lister's antiseptic theory was greeted during the early part of his career in Antiseptic Surgery. This continued until the Germans—a race ever on the alert for hints indicating progression—saw merit in his theory and methods, took hold of his ideas and aided in the further elaboration and application of this most beneficent advancement in Medical Science.

It was only then that his fellow countrymen became convinced of the truth of the principles of the great germ theory of disease.

Since that time I am pleased to say that the medical world has been more thoroughly on the alert to grasp the earliest hints along the line of advancement.

From the germ theory of disease has sprung that great and important branch of Medicine—Bacteriology—which, of itself is one of the greatest boons to humanity. Through this branch have been given many priceless gifts in medicine as well as in surgery, among which are the various antitoxic serums or serum Therapy, by which those about to be exposed to contagion can be rendered immune, and those who have contracted the disease can have it aborted.

Bacteriology, properly comes under the head of Sanitary Science or preventive medicine, and the day is not far distant when each municipality will consider the bacteriologist one of its most important officers, for the detention and stamping out of disease.

Many other discoveries of a valuable nature have been adding largely to our armamentaria, such as the animal extracts by which certain glandular excretions are made use of in correcting or modifying defective nutrition. Then there is the x-ray treatment and the assignment to its proper place as a therapeutic agent, of that wonderful, ethereal substance electricity, which no man, as yet, has been able to define.

All these marvellous improvements in the medical and surgical world, with many others equally wonderful, have slowly and patiently come about, and have been the work of many heads and hands, but certainly and surely have they supplanted our older theories. New terms, and new uses for old terms, have arisen.

All this makes work for the teacher and student as also for the progressive practitioner.

Much as has been done in the past, there yet remains a vast amount to be done in the future.

The ordinary lay mind cannot readily grasp the almost insurmountable difficulties which beset the original investigator of disease. It is ever wrapt in mystery, difficult to unravel. Disease and even life itself are subtle unseen influences, following no ordinary known law, or regular order. All diseases have certain symptoms in common, yet have certain material differences which are often obscured.

When the cause of a disease has been made known, one of our greatest difficulties has been removed. Fortunately this germ theory explains much that has hitherto been dark and abstruse. We hope and confidently expect in this way to clear up and put on a satisfactory basis many hitherto intractable diseases, which have relentlessly scourged the human race.

# PHARMACOLOGY — GENERAL CONSIDERATIONS OF THE MODIFIERS OF NUTRITION.*

By PROFESSOR POUCHET, PARIS.

THE study of the modifiers of nutrition is the subject of our attention this half year. I would like to-day, as a point of introduction, to trace the outline of this subject; to make you seize the considerable importance of this very complex group, constituted from alimentary substances, physical agents and medicinal substances; to show you how we pass from one to another, so to speak, without transition; to make you feel the influence of the physico-chemic rule of the vital force in the realization of these modifications, and the way in which it may be modified in turn; finally, to try to classify these objects of our study. In order to do that, it is necessary first to consider, from a very general point of view, the phenomena of nutrition as well as the disturbances they may experience.

All living beings need, in order to preserve their functions and renew their substance, some complex, nutritive agency, containing both organic and mineral materials. Among these elements some seem to exercise a preponderant influence, but, in reality, all are indispensable. The most typical example, one can furnish for this subject is Raulin's liquid, in which the least change, either qualitative or quantitative, quickly determines an accentuated decrease of proliferation even in certain cases, the sterilization of the medium. The presence of very small quantities of certain bodies, such as zinc, matter very little, having no other effect than to hinder the invasion of the medium by strange germs; that which we ought to keep is the necessity for intervention by this or that substance, and that in determined proportions so that the normal evolution of the culture may go on.

Before making an integral part of a living organism, all substances, which will be assimilated later by that organism, ought to undergo modifications more or less profound, enabling them to adapt themselves to the special and proper conditions for the manifestation of the physico-chemic phenomena, characterising life. As a certainty, simple variations of quantity produce accentuated changes in the molecular equipoise, and bring about a veritable perversion of the normal state.

All chemical compounds and physical forces exercise an influence, more or less marked, either on the very elements of the nutritive medium, or by the method through which the syntheses operate, that is to say, of which the vital medium is constituted. Certain substances, or certain conditions, acting by external influence and to which we give the name

*The opening lecture of a course on Pharmacology and Materia at the Medical Faculty, Paris, Session 1904-5.

of circumfusa, show a very peculiar affinity, and constitute the point of departure from these modifiers of nutrition of which alterants form the most decided expression, applying to this term alterant its entire significance, considering it as a profound modifier, capable of introducing important changes, often disagreeable, into the composition of solids or liquids, but especially of the blood.

In most of the treatises on therapeutics, we meet this definition: The name alterant is given to those remedies which by long usage without producing immediate and sensible effects, modify in a persistent manner the nature of the blood and the various fluids. The alterants ought to be considered as agents of substitution. They only act clearly when substituting a curable malady for a chronic or incurable one.

In order to make my thought clear, I will cite some extreme examples on this subject: An exclusive flesh nourishment and confined air are the evident and primordial causes of disorders in the evolution of the regular phenomena of nutrition. On the other hand, I take mercury as a type of alterants and will recall to you its exciting action, almost to salivation, indicating a state of saturation of the economy, pretended necessary for therapeutical action, that which the verses of Fracastor depicts so eloquently in his poem "Syphilidis, sive de morbo gallico."

"Liquefacta mali excrementa vidibis
Assidue sputo immundo fluitare per ora.
Et largum antè pedes tabi mirabere flumen."

Truly, this conception of alterants is sensibly modified, and we are forced to limit their role to that of simule modifiers of the living cell, capable of restoring the anatomical elements from a morbid state to a healthy state. Under this title all remedies are alterants. In the sustained conflict between the foreign substances and cells, one looks for an attempt to provoke a special action over the anatomical elements rendering them incapable of becoming or of remaining the basis of the malady, of the functions doing duty by morbid means, or of constituting a proper soil for development, as to whether the malady belongs or not to the group of microbes. Such is the action of mercury as an antisyphilitic. The end that is proposed is the realization of an incompatibility between the soil and the morbid cause, as that which is found to exist following a former contamination or vaccination.

But the same causes of derangement of normal evolution exist everywhere: in the air we breathe; in the aliments serving to build up our tissues; in the vicious preponderance of activity given to such or such an organ, to such or such a function, or, indeed, on the other hand, in the exaggerated repose in which we maintain them; in the meteriological conditions of the land of which we are natives; in the establishment of

social order, such as gaiety, sadness, etc.; just as the means of remedying the cause of perturbation are in evidence everywhere—in the physical agents surrounding our organs, those which are called the environments; in methodical exercise of the organs and functions; and in the meteriological conditions in the midst of which we live.

Observation has taught for a long time that on this side or that of a certain mean, there are some influences which remaining without action on a normal organism, are capable of becoming the cause of troubles more or less accentuated and that disease may even result from the prolongation only of a habitual nutritive error, so that the economy suffers excessive wastes, or remains encumbered by materials insufficiently elaborate, or imperfectly or too slowly eliminated, those materials of decay constituted by different principles however, from those which have been introduced into the body, the aliments, and from those which remain fixed by the state of the tissues or the fluids in the organism. It has been noticed, so to speak, at all times, that the quality and activity of metamorphosis undergone by living and organized material, in other terms the activity of nutritive mutations, vary with age, the weight of the body, sex, the regime, exercise, the temperature, light, the barometric pressure, to speak only of the conditions accessible at our actual means of investigation. This double movement of assimilation or simultaneous disassimilation is characteristic of living organized matter, and metabolism is a fundamental property of organized substances by simultaneously manifesting the two groups of nutritive phenomena, that is to say, of presenting a continuous molecular renovation.

The materials destined for assimilation unde.go a particular elaboration, by the power of organized substance itself, before becoming an integral part of the organism. It is thus that cane sugar introduced into the body by means of an intra-venous injection is eliminated unchanged and without producing anything else than troubles, more or less accentuated, of the regular phenomena of nutrition; but when it is introduced by the mouth it undergoes in the digestive canal modifications which transform it into glucose, permitting it to be completely assimilated. It is the same for albumin which is eliminated without sensible modifications, by the kidney after intra-venous injection, while the peptones which are formed in the digestive canal are indispensible for organic repair. We ought to conclude that the secretion of diastase is absolutely necessary. But besides, in order that nutrition may be effected, it is necessary that the organized substance may be placed in a convenient medium, that is to say in certain conditions of temperature,

moisture, etc. If one of these conditions or indeed the organized substance itself should vary, nutrition would be restrained.

Without delaying here on these slow and continual modifications, which the organized substance always undergoes, and which are the testimonies even of life, I wish to draw your attention to the more abrupt modifications which are the work of an alterant, or of a cause of nutritive disturbance. The principal influence is then exercised by the intervention of the changes brought about by assimilation. All the vital powers are, indeed, subordinate to that metabolism of which I spoke a short time ago, which ought to be considered as an elementary quality, the most general, the most simple and the most characteristic of life, constituted by the material replacement, molecule for molecule, of the anatomical elements, from which results the apparent support of the organism in its primitive state.

Some of the troubles in the physico-chemic actions characterizing the life of the cells may be provoked either by modifications brought about in the phenomena of assimilation, or by modifications brought about in the phenomena of disassimilation. These two kinds of disturbances are then characterized by troubles of absorption and by troubles of secretion, these latter being provoked, above all, by the retention of decayed materials. It results from this that these are the grand functions of nutrition: digestion, circulation, respiration, and urination, which are the most directly modified. It would be to make use of an insufficient and blind treatment, consequently dangerous, to seek to set up a remedy for the troubles of these functions directly, without being occupied with their origin.

The animal organism is an energetic agent of the production of synthesis by oxidations and successive reductions, divisions, hydrations, dehydrations; and we know by experimenting that the influence of the agents, in the function of their physico-chemic constitution, is of primordial importance in the determination and regulaton of these various phenomena.

The nutrition of the anatomical elements is effected by the intervention of the sanguine plasma. So the modifiers of nutrition will come to be essentially the modifiers of sanguine plasma, either as these modifications are slowly realized, under the influence of an alimentary regime, etc., or as they may be abruptly brought about, under the influence of some medicinal substances. In all cases the proofs will be the same, and they will be hindered through an obstacle from manifesting the phenomena consecutive to the acts of nutrition or indeed by troubles in the acts peculiar to the anatomical elements.

A substance active on the organism, whether it be a question of a substance foreign to that organism, or of one which regularly makes a portion of it, but which is then introduced into it in a proportion notably different from that under which it is usually contained in it, may show that activity in different ways. It may act on the cellular protoplasm and there determine phenomena of coagulation or liquifaction; it may excite the membrane covering the cells, stop its functions, particularly absorption, and influence thus indirectly the vital processes. It may yet settle itself on the nucleus or on any other parts morphologically different from the cell, and induce disorder in their functions. On the other hand, a certain number of toxic substances localize their effects on some of the products of the differentiation of proto-plasma, such as hemoglobin, nervous substance, muscular tissue, etc.; others localize their effects on the products of elaboration of protoplasma, such as diastases; others, in short, are capable of forming combinations with the elementary materials, and the reserves included in the cells, as albuminoids, hydrate of carbon, fats, mineral salts, and may give rise in this way to nutritive disorders. In short, and this is not the least important point to consider, another injurious action may be put into play through a succession of phenomena of osmosis varying from simple dehydration, more or less pronounced, almost to the plasmolysis and to the death of the cell.

The fundamental importance of blood plasma rests, above all, in the fact that it furnishes energy to the active substances, capable, by their intermediary powers, of disseminating into the whole organism and of exercising their effects *in situ*. But, as the recent researches of M. René Quinton have shown, the blood plasma enters only as a feeble part into the composition of the liquid which he calls the vital medium and which he considers as the medium of culture for living cells. This vital medium, which bathes all the cells, forms a singular whole, constantly clarified and renewed by the haemolymphatic or sanguine circulation on the one hand, through the phenomena of osmosis and diffusion on the other hand. The living material can find the elements for their continual renewal in this vital medium. An alteration, more or less profound or prolonged, in its composition, ought, therefore, to bring about certain modifications, more or less evident, in the evolution of the phenomena characterizing nutrition, which may be readily changed by a chemical or microbic poison, the insufficiency of the emunctories, the defect or excess, of certain alimentary actions.

One can thus realize an indirect action on the living substance by modifying the medium in which it lives, that is in which the physico-chemic phenomena, are affected permitting the renovation and accomplishment of the physiological acts for which it is destined.

The substances employed in these conditions will be modifiers of nutrition by opposition to the modifiers of the nervous system, of the muscular system of the heart, and circulation, etc., which concern themselves more especially with a tissue or determined structure. But it is not necessary to disguise them, as there is an apparent precision only in the definition; and, just as we have already many a time observed the same substance re-enters into several different groups, according to the diligence with which we seek to realize it. Whatever may be done on the other hand, it is not possible to avoid a complexity of actions due to an influence exercised simultaneously on certain tissues or structures and on the vital medium.

But all modification, even weak and transient of the medium, necessarily reacts on the anatomical elements which should find in this medium the necessary substances for their maintenance and their renewal, that is for their life. And this reaction will necessarily transform itself by transient or lasting modifications according to the intensity of the impregnation, the delicacy and responsiveness of the impressioned anatomical element, the renewal or prolongation of the influences. These cosiderations permit the understanding of, among other things, the fundamental importance of the alimentary regime. It is extremely probable that these general modifications of the fixed elements of life create the morbid aptitude or confer immunity. In all cases this alteration of the physico-chemic constitution of the vital medium ought to cause a change in the activity with which the cells elaborate matter, namely, a modification more or less profound in nutrition, in succession to a variation in the proportion of immediate principles, by the diminuation, the suppression, or the addition of certain substances, which necessitate a change in the composition of the blood and the juices constituting the vital medium of the cells, which bring about an alteration in the physico-chemic constitution of the anatomical elements, rendering possible in them the accumulation or the disappearance of such or such an immediate principle, determining in them the formation of abnormal substances, troubling the anatomical state of these elements and preventing the performing of their functions.

Modifications thus produced do not depend solely on the quality, the quantity, and the relative proportion of the various ingesta; they are influenced by the actions of the important organs, which elaborate, distribute and eliminate these materials; but they are above all subordinated to the vital activity of each cell and governed by that great regulator of the organic acts—the nervous system. And we are led back to the consideration of the modifiers of nutrition as the indirect modifiers of the

nervous system, justifying the assertion to which I have already drawn your attention several times that all medicinal substances may be considered indefinitely as modifiers of the nervous system.

The quality of the metamorphoses, which the material undergoes and the activity of the nutritive mutation may be influenced in an abnormal sense in accordance with a particular disposition of the economy, answering to the old conception of Diathesis which impresses a vicious course on the manner by which these changes are accomplished. It is in all these cases specially that there would be a major interest to interfere with the evolution of the nutritive phenomena in order to bring them back to their normal course. These diatheses result sometimes from a very long subjection of the organism to conditions more or less abnormal which end by realizing a particular adaptation, producing this vicious form of evolution from the nutritive phenomena; but they are indeed more frequently congenital, because the permanent alterations of nutrition may have their principal origin in heredity or an inborn tendency. Each anatomical element, arising from the primordial cells constituted by the ovum and the spermatozoon, contain or reproduce the method of nutritive activity of these elements or their generators. This explains the difficulty that we experience in modifying as well by the means of medicinal substances as by the aid of physical agents, the nutrition, of cells of which the reactions have been firmly established for a long time in a fixed direction.

We almost always ignore the very cause of the trouble in nutrition capable of engendering the diathesis. While observation teaches us that each time that a living organism deviates from its normal functions on account of a morbific influence, it tends to return spontaneously to its normal state, in other words, to health; and one may, with Professor Panchard, consider the malady as being often only the sum total of the oscillations resulting from the antagonistic action which arises from the disturbing and the curing effect, oscillations which at last arrive at a state of equilibrium. In order that a disease which is not necessarily fatal may not go on to a cure, and consequently that it may remain chronic, it is necessary that the disturbing effort should be lasting and maintain the deviation.

In some cases, this deviation producing persistent nutritive alterations will be able to cause paroxysmal accidents, rebellion of the organism which reacts by these violent manifestations; these are then useful maladies, if one may thus speak, and which it is necessary to know and respect. But, in the majority of cases, it is important to correct this deviation from the normal nutritive phenomena, because these troubles

create a favorable medium for the development of certain germs which would not be capable of multiplying in a normal organism.

Conversely the development and multiplication of germs in a normal organism may become the cause of severe derangements in nutrition. Thus is it necessary to attack these enemies in every organ through which we suppose they may penetrate into the economy, to folow them in the blood and the tissues, to try to destroy them or at least to stop their multiplication; to forcibly remove from the liquids of the organism whatever might be necessary for their life, or to add what would be hurtful to their existence, in other words, to modify the physical state of the vital medium. In this case, the search for a parasiticide agent appropriate to each kind of germ should not cause us to neglect the organism of the patient by modifying his nutrition, in fine, by artificially producing that particular state of the fluids which creates immunity. In order to fix ideas by an example, phthisis is certainly proven to be due to germs, but these germs can only multiply readily in a body with poor nutrition, and this alteration of nutrition results from heredity, from innate conditions, from bad habits, from defective hygiene, from a physiologically debilitated function, or from previous maladies.

I hope by these few considerations to have made you seize the prime importance of the modifiers of nutrition. Their role is, indeed, quite superior to that of the remedies which we have studied previously. But the interpretation of their action is still more delicate and difficult because, in a great number of cases, the modification that they determine are brought about only by a very long lapse of time, and which experimentation is incapable of revealing by its interrupted nature. A series of changes intervene both in the vital medium and in the anatomical elements which are nourished there. Thus is it to empiricism that we owe the largest part, I would even say almost all our knowledge of therapeutic agents.

To mechanically modify the anatomical state, to change the active functions of the elements and structures, to provoke an act physiologically useful, are the desiderata these modifiers of nutrition attempt to realize, and it is here that we might apply the maxim of Schwelgue: "When it is expedient to act in a disease, it is the change which is essential." It is important to remember, that many remedies seem to produce opposite effects according to the condition in which they find the organ on which they act, as if their action is limited by putting the organ in a state contrary to that in which it was at the moment when the remedy influenced it. This observation is principally verified in the case of the modifiers of the nervous system and of nutrition.

However, in the majority of cases, though less manifest or immediately obvious to our senses, the influence exercised by the environments on the animal organism is quite as important as that exercised by the same agents on the vegetable organism. The differences, so glaring in appearance, which exist between the animal and vegetable when one considers some representatives raised high enough in each group, disappear when we consider the anatomical elements. Then we see no more constantly the products of vegetable assimilation serving for animal nutrition than that the products of animal disassimilation are used by the vegetal. What we desire to point out is that the vegetable is an agent of organization, of synthesis, of reduction, while the animal is an agent of destruction, of analysis, and of oxidation. In the presence of some anatomical elements, the oxidations and reductions are effected in both cases and after the same manner.

Now it is necessary to wait and see the physical agents play a very important role under the title of modifiers of nutrition, and we can even discover a trace of this physico-mechanic influence in the manner some medicinal substances will intervene as a means of modification. There exists, indeed, a very accentuated difference in the influence exercised by various medicinal substances. Certain bodies act chemically on the protoplasmic elements or on their elaborated products, while others act physically and their influence depends more on the number of molecules contained in the medium than on the nature of these molecules. I cite, as an example, the influence exercised by sea salt. A weak solution stimulates the fermentation of glucose in the presence of the beer leaven and promotes the absorption of an albuminous solution injected into the rectum of an animal, a solution which would not be normally absorbed, while concentrated solutions of sea salt absolutely arrest these phenomena.

The influence exercised by these physico-mechanic conditions is still very obscure and scarcely commences to appear in the interpretation of medicinal actions, but we will certainly draw from here a few of the precepts which will allow the elucidation of a great number of questions. The theory of ions, of cryoscopy, of osmotic tensions are the proofs of the part, at times preponderant, which these questions of molecular physique may claim in the unravelling of the phenomena.

By way of resumé, the modifiers of nutrition represent par excellence the type of those remedies named by Fonssagrives, biocraties, that is to say, permitting of the creation, in some way, of a special form of health, a particular physiology, only temporary, and profitting by the favorable solution of maladies when it is stirred up in an opportune manner. These are the remedies of which Hertz has defined the effect in the following way, "To dominate the physiology of a malady by that of the remedy."

The agents of that medication are the modifiers of functions or organs to the aid of which they are directed by raising, lowering or regulating the rhythm of their activity. Thus we are led to establish two large groups—stimulants, and depressers—although the distinction may not be. in reality, quite as marked as this subdivision would lead one to think.

The action of a stimulant may be directly, or indirectly exercised: directly in rendering more perfect the interstitial elaborations from which the cellular work results characteristic of each organ tissue or cell; or, indeed, by bringing with greater abundance and after a better choice the elements of reparation. Such is the role of alimentary tonics, or analeptics, employed solely or concurrently with medicinal tonics. Analeptics are the agents which restore by nutrition the materials which are lacking in the blood, so that it may accomplish its work in a regular way. Under this heading, sodium chloride, iron, manganese, oxygen, phosphate of calcium are aliments, or, at least, constitute terms the vital medium more fertile, and which increase in consequence the multiplication like those which are considered as stimulants of histogenesis and favor the perfection of the finest acts of nutrition.

The mode of action of these substances is as complex. They may act directly on the cells or through the medium of the trophic nerves; they may intervene by provoking the exaggeration or diminution of the functional activity of the organ or tissue. Pushing the argument further in this direction, we find that it even leads us to still consider as indirect modifiers of nutrition, certain special or functional stimulants capable of exciting the sensitive activities of transition between the aliments and medicaments, because they may be considered, according to circumstances, either as alimentary substances destined for the renovation of anatomical elements and the fluids, or as medicinal substances intervening under the head of modifiers. On the other hand, all aliments which are energetic restorers in small volume form part of this group of analeptics.

Thus one may fix the passage, by insensible gradations, from the reconstructing agents which increase the activity of cellular formation, either by depositing some of the more useful alimentary material, or by a kind of augmentation of the cell appetite, to those which render the conflict between the cell and of the secretory organs, such as the diuretics, cholagogues and galactagogues.

As to agents of depression, they are represented by alterants or attenuants, remedies capable of exaggerating the movement of disassimilation or indeed of abating the activity of cellular formation according to a special action quite independent of a hypersecretory action, on the side

of which it is necessary to place the indirect depressers, provoking exaggerated organic expenditures either by hypersecretions, or by excessive cellular activity.

TABLE OF THE MODIFIERS OF NUTRITION.

| | | |
|---|---|---|
| Stimulants of general nutrition | Alimentary tonics (restorative analeptics) | Analeptics (proteid, fat, sugar, feculents, gelatinous gum.) |
| | Medicinal tonics (trophic stimulants) | Bitter aperients, chloride of sodium, sodic chlorine water, phosphate of lime. |
| Stimulants of special nutrition | Physical agents: gymnastics, massage, percussion, faradization. | |
| | Douches: saline, sulphurous, aromatics, etc. | |
| | Phosphorus and arsenic. | |
| Depressors of general and special nutrition | Weakening diets, alterants properly and directly named: phosphorus, arsenic, iodides, acids, mercurials, alkalines. | |
| | Indirect attenuants: hypercrinical, purgatives. | |
| Agents indirectly contributing to the modification of nutrition | Antiseptics, parasiticides. | |

As usual, in pharmacology, these subdivisions are indeed far away from presenting that exactness which one would like when dealing with a classification. They ought to be considered only as a didactic means, an artifice permitting arrangement in order to facilitate study. Some agents are capable of producing in the organism modifications often very different according to opportunity or the mode of their use.

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## THE HOME IN ITS RELATION TO THE TUBERCULOSIS PROBLEM.*

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### I.

In its most important aspects the problem of tuberculosis is a home problem. In an immense proportion of all cases the scene of the drama is the home; on its stage the acts are played, whether to the happy issue of a recovery, or to the dark ending of a tragedy, so commonplace as to have dulled our appreciation of its magnitude. In more than four hundred homes of this country there are lamentations and woe to-night; husbands for their wives, wives for their husbands, parents for their children, children for their parents. A mere repetition of yesterday's calamities! and if the ears of your hearts are opened you can hear, as I

*From the Report of the Henry Phipps Institute for the Study of Tuberculosis.

speak, the beating of the wings of the angels of death hastening to the four hundred, appointed for to-morrow. That this appalling sacrifice of life is in large part unnecessary, that it can be diminished, that there is hope even for the poor consumptive—this represents a revulsion of feeling from an attitude of oriental fatalism which is a triumph of modern medicine. Our French brethren have made the present position of the question possible. Laenec, the father of modern clinical medicine, gave us the pathology of the disease—and much more. When Galen, Frascatorius, Morton, and others believed strongly in the contagiousness of phthisis, it remained for Villemin to demonstrate its infectiveness by a series of brilliant experiments which made Koch's work inevitable; while to Verneuil, Chauveau, Nocard, Brouardel, and others we owe the initiation of those local and international congresses which have done so much to rend the veil of familiarity, and to educate the public and the profession to a point at which scientific knowledge has become effective. It seems a law that all great truths have to pass through a definite evolution before they reach a stage of practical utility. First the pioneers, seeing as through a glass darkly, groped blindly for the truth, but worked so effectually that by the seventh decade of the nineteenth century we had a clear pathology of tuberculosis and an accurate symptomatology; while in each generation a man had not been wanting who, like Sydenham, or George Bodington, appreciated the essentials of treatment, as we recognize them to-day. Then Villemin and Koch demonstrated the truth of the infectivity of the disease and the presence of a specific germ. Watchers on the towers, like the late Austin Flint, a lifelong student of the disease, welcomed the announcement as the much-wished-for fulfilment of a prophecy; but, as Plato shrewdly remarks, we are not all awake when the dawn appears, and many in this audience, like myself, had to see the truth grow to acceptance with the generation in which it was announced. It is a horrible thought, but very true, that we reach a stage in life, some earlier, some later, in which a new truth, a perfectly obvious truth, cannot be accepted; and the work of Villemin and of Koch fared no whit better with the seniles and the pre-seniles of the seventh and eighth decades of the last century than did Harvey's immortal discovery in his day, or for the matter of that, did Lister's great work. And now we are in the third or final stage, in which the truth is becoming an effective weapon in the hands of the profession and of the public. The present crusade against tuberculosis, which is destined to achieve results we little dream of, has three specific objects: first, educational—the instruction of the profession and the instruction of the people; second, preventive—the promotion of measures which will check the progress of the disease in the community; third, curative—the study of methods by which the progress of the disease

in individuals may be arrested or healed. The three are of equal importance, and the first and the second closely related and interdependent. The educational aspects of the problem are fundamental. Nothing can be done without the intelligent coöperation of the general practitioners and of the community, and it is a wise action on the part of the Phipps Institute to take up actively this part of the work, and to spread a sound knowledge by lecture courses and by publications. It is not too much to say that could we get on the part of the doctors throughout the country an early recognition of the cases, with a practical conviction of the necessity of certain urgent and obvious measures, and on the part of the public attention to hygienic laws of the most elementary sort—could we in this way get the truth we know into the stage of practical efficiency, the problem would be in sight of solution.

Of late years there have been done in this country three pieces of work relating to tuberculosis of the first rank—that of Trudeau in the Adirondacks, enforcing on our minds the importance of the sanatorium treatment of early cases; that of Biggs and his associates in the New York Board of Health in demonstrating how much can be done by an efficient organization; and, thirdly, the work of Lawrence F. Flick, the Director of the Phipps Institute, in demonstrating by a long and laborious research the dangers of the house in the propagation of the disease. In casting about for a subject it seemed to me most appropriate to discuss those aspects of the problem which concern the home in its relations to the disease, since after all the battlefield of tuberculosis is not in the hospitals or in the sanatoria, but in the homes, where practically the disease is born and bred.

## II.

The germ of tuberculosis is ubiquitous; few reach maturity without infection; none reach old age without a focus somewhere. This is no new opinion. Gideon Harvey, in his "Morbus Anglicus" (1672, 2d ed.), says: "It's a great chance we find, to arrive to one's grave in this English climate, without a smack of a consumption, Death's direct door to most hard students, divines, physicians, philosophers, deep lovers, zealots in religion," which is the English equivalent of the German popular saying, "Jedermann hat am Ende ein bischen Tuberculose." This may seem an exaggerated statement, but the records of Naegeli demonstrate its truth. After all, it is only from the post-mortem table that we can get a true statement of the frequency of tuberculosis in the community. It has long been known that a very considerable percentage of persons not dying from consumption have the lesions of tuberculosis. The records have ranged in different series from 7.5 per cent. (Osler), to 38.8 per cent. (Harris). But these studies were not made directly with a view of deter-

mining the presence of tuberculosis. They were the ordinary, everyday observations of the post-mortem room. The only series which we have dealing with this question in a satisfactory way is the study of five hundred post-mortems in Prof. Ribbert's Institute in Zurich, by Naegeli. It is to be borne in mind that in his work special examination was made of every organ of the body, sections were made of all parts with the greatest care, and the individual lymph glands particularly inspected. Tuberculous lesions were found in 97 per cent. of the bodies of adults.* He gives a very interesting curve showing the incidence at different ages. Up to the fifteenth year there was only 50 per cent. then there was a sudden rise in the eighteenth year to 96 per cent. with a slow rise, so that by the fortieth year a tuberculous focus was found in everybody. This careful research demonstrates the extraordinary susceptibility in man to tuberculous infection, and an equally extraordinary degree of resistance. In the tuberculin experiments of Franz on healthy Austrian soldiers a reaction was shown in over 60 per cent. so that we must accept the conclusion that tuberculous infection, latent tuberculosis, is much more extensive than is the manifest disease.

One interesting point is that we are never left long in peaceful possession of a satisfactory belief about the modes of infection in tuberculosis. No sooner had the pool got quiet and we had settled into a comfortable conviction of the unity of human and bovine tuberculosis, than Koch stepped in and troubled the waters with his views on their dual nature; and now, just as the commotion was subsiding, von Behring stirs the waters by referring all tuberculosis to the milk-jug. But none of these investigations has diminished the importance of the home as the chief source of infection, the place in which the conditions favoring contamination are most common, particularly among the poor. Nor do I think that we can give up the view of aerial convection and of primary inhalation infection in a large proportion of the cases. Figures are, of course, tricky playthings, but it does seem that the overwhelming evidence of the prevalence of bronchial and pulmonary tuberculosis in children is in favor of the older views. After all, how rare is intestinal tuberculosis as a primary lesion! and if, as von Behring supposes, there is a special vulnerability of the bowels in childhood, we should expect a much larger number of cases. It is quite possible, as he has shown, and as Ravenel has demonstrated, that the bronchial and cervical lymph glands may be the first attacked in an animal infected through the intestines; yet the incidence in childhood of respiratory disease is so large, and the incidence of intestinal lesions is so small, that it counts strongly against von Behring's new views. In fact, primary intestinal tuberculosis is extraordinarily

*"Virchow's Archiv," Bd. clx, page 426.

rare. Koch states that there have only been ten cases in ten years at the Charité Hospital, Berlin, and of thirty-one hundred and four instances of tuberculosis in children there were, according to Biedert, only sixteen cases, while in adults primary intestinal tuberculosis occurred in but one instance in one thousand autopsies at the Munich Pathological Institute. In this country the studies of Bovaird in New York and of Hand in Philadelphia speak strongly in favor of air-borne infection in the large majority of cases in children. There is a special liability of the milk to become contaminated by the dust in uncleanly streets and in dirty houses, and upon this mode of infection von Behring lays great stress, and in infancy, either in this way or from the milk of tuberculous cows, he thinks the majority of persons become infected. Apparently he does not adopt Beaumgarten's view of the latency of the germ itself, but of the latency of small foci of disease acquired in childhood, which only develop into active tuberculosis under favorable circumstances. It may be well to quote his own words in this connection, as his views are of importance: "I am well acquainted with the statistical arguments based on the higher returns of infection and mortality from consumption amongst attendants on the sick residents in houses occupied by people known to be phthisical, and inmates of prisons, which are intended to demonstrate the origin of pulmonary phthisis from the inhalation of particles of dust, or moisture containing tubercle bacilli. But in view of the extensive dissemination of tuberculosis above described amongst the human race, there is ample justification for the objection that in cases of this kind, where persons succumb to pulmonary phthisis, tuberculous foci pre-exist in their lungs, and that these pulmonary lesions already present developed into active consumption, owing to the adoption by those persons of a mode of life favoring tuberculosis." ("British Medical Journal," translation, Oct. 17, 1903.)

We need a systematic inspection, according to Naegeli's method, of the bodies of children dead of acute diseases, so as to get, if possible, the true incidence of infection in them. Councilmen and others have shown how frequently tuberculosis is present in the bodies of young children dead of diphtheria, but the statistics at our disposal certainly do not bear out this view of von Behring, which would lead us to suppose that infection was largely a matter of childhood. Naegeli's figures on this point are interesting, though he only had eighty-eight autopsies on children. Still his results are of value, as the inspections were made with such very special care. Of these eighty-eight children there were only fifteen with tuberculous lesions. In ten of these the tuberculosis ran a fatal course; in four there were advanced lesions which did not cause death, and in only one was there a definitely healed lesion.

Sown broadcast as they are in our modern life, it is evident that few people reach maturity without harboring the seeds of tuberculosis. That we do not all die of the disease is owing to the resistance of the tissues; in other words, to an unfavorable, *i.e.*, the rocky soil on which the seeds have fallen. The parable of the sower sets forth in an admirable way the story of the disease. Since I used it in 1892, the illustration has become hackneyed, but in a semi-popular lecture I may be permitted to employ it again. The seed that falls by the wayside are the bacilli that reach our great highways, the air passages and intestines, in which they are picked up by the phagocytes, representing the birds of the air, or they are trodden under foot by the swarms of contending organisms. The seed that falls on stony places is that which reaches the lymph-nodes of the bronchi and mesentery, and though it springs up and flourishes for a while, there is no depth of earth, and, lacking moisture, it withers away into cretaceous healing. And that which falls among thorns represents the bacilli which effect a lodgment in the lungs, the kidneys or elsewhere, where they thrive and grow and produce extensive changes, but the thorns—the equivalent of the cares of this world and the deceitfulness of riches, in the parable—grow up also, and in the form of delimiting inflammatory processes and of contracting fibrosis, choke the seed, and recovery ultimately takes place. But falling on good ground, the seed springs up, increases and brings forth fruit some thirty, some sixty and some a hundredfold, which may be taken to represent the cases of chronic, subacute, and acute tuberculosis. We are beginning to appreciate that the care of the soil is quite as important as the care of the seed. We cannot repeat Trudeau's remarkable environment experience in our cities, but we learn a practical lesson of the influence of fresh air, open spaces, and sunlight upon infected individuals. Much has already been done in this direction, and the reduction of the mortality from tuberculosis which has been going on for the past twenty-five years has been in great part due to improved sanitation. We have only made a beginning, but to know the enemy in this case, to know that his strength lies in the homes of the poor, is more than half the battle.

Let us look at the conditions confronting us in one of the large eastern cities. Like Philadelphia, Baltimore is fortunate in the absence of big tenement houses, but, like it, too, it has the disadvantage of a large number of very narrow streets and alleys. There is no drainage system, the sewerage is collected into cesspools, while the surface water and the water from the kitchens run off on surface drains. There is a very large foreign population and a large number of colored people. While tuberculosis is a very common disease, I do not think the mortality in Baltimore is specially high. In the report of the Board of Health for the year

1901 there were twelve hundred and seventy-four deaths from the disease in a total mortality of ten thousand four hundred and seventy-nine, about 12 per cent.

Four years ago two ladies, interested in the disease, gave me a sum of money to use in connection with our work at the Johns Hopkins Hospital. We do not take many cases of tuberculosis into the wards. Last year there were only fifty-three. They come chiefly for the purpose of diagnosis, and we often admit patients from outside the city on purpose to teach them, for a period of a week or ten days, just how to regulate their lives. It seemed best to try to do something for our consumptive outpatients, of whom we have an average of about two hundred new cases in the year. It seemed to me that a good and useful work could be done by the personal visits of an intelligent woman to the houses of these patients, that she might show them exactly how to carry out the directions of the physician and give them instructions as to the care of the sputum, the preparation of food, and when necessary to report to the Charity Organization as to the need of special diet, or to the Health Board when the surroundings were specially unsanitary. In connection with this an inspection has been made of the condition under which these people live. Of the seven hundred and twenty-six cases, five hundred and forty-five were whites, and one hundred and eighty-one blacks. Among the whites were fifty-three Russian Jews. There were four hundred and ninety-two males, two hundred and thirty-four females. The analysis of the reports of Miss Dutcher, Miss Blauvelt, and Miss Rosencrantz during the past four years is briefly as follows:

| | Russian. | Colored. | White. |
|---|---|---|---|
| Bad sanitary location | 62% | 53% | 16% |
| Insufficient light and ventilation | 71% | 65% | 36% |
| Overcrowding | 61% | 41% | 32% |
| Personal and household uncleanliness | 70% | 56% | 30% |

The white population in a large majority of the cases was distributed irregularly throughout the city, but a large proportion live in good locations, many even on new streets in the suburbs. A small percentage, about twenty, live in a bad neighborhood, where the houses are close together and hemmed in in narrow alleys and courts. This region lies chiefly to the south and west of the hospital, toward the harbor. In about a third of these people the personal and household cleanliness is fairly good. The colored people make up about a fourth of the cases. They live in much more unfavorable localities, chiefly in narrow, thickly populated and dirty alleys in small, two-story houses, usually old, and the windows often limited to the front—houses in which proper lighting and ventilation are impossible. One important feature in the colored population is the desire always to occupy their own houses, so that there

is comparatively little overcrowding. The Russian Jews form about one-fourteenth of the total number of patients. They live in a neighborhood that was at one time inhabited by the wealthier classes and the houses have now been converted into tenements. The streets are in many cases wide and clean and sunny. The percentage of overcrowding in the rooms is high. Very often a family of seven or eight is found in two rooms. The contrast in the matter of personal and household cleanliness between the Russians and the other whites is most striking. It is exceptional to find the former in a condition, either in person or house, that could be termed in any way cleanly. A very serious thing is the frequency with which the patients move from one place to another. The seven hundred and twenty-six patients had during their illnesses occupied nine hundred and thirty-five houses. Last year the percentage of removals was still higher. The one hundred and eighty-three patients had occupied three hundred and seventy-nine houses. Another important point brought out was the fact that fully 66 per cent of the patients visited did not sleep alone.

Amid such sanitary surroundings the patient can scarcely avoid contaminating the house in which he lives, while, perhaps more important still, the environment, combined with insufficient food, etc., lowers the resistance of the other members of the family and renders them more liable to active disease.

How are we to combat these conditions? *First,* by an educational health campaign in the homes. The young women who have been engaged in this work in Baltimore have frequently reported to me the readiness with which their suggestions have been accepted, particularly in regard to the care of the sputum. To be successful such a campaign must be carried out by the Board of Health, and a staff of trained visitors, women preferably, should do the work. To carry this out effectually there should be, *secondly,* in all cities a compulsory notification of cases. The plan has worked most successfully in New York, and it should be everywhere followed. There are no difficulties which cannot be readily surmounted, and there need be no hardships. *Thirdly,* in most cities the powers of the Health Boards should be greatly enlarged, so as to deal efficiently with the question of proper disinfection of the houses occupied by tuberculous patients. *Fourthly,* the question of the housing of the poor needs attention, particularly in the matter of proper control of tenements, and the regulation, by law, of the number of persons in each house. *Fifthly,* by placing upon the landlord the responsibility of providing, under the control of the Board of Health, a clean, wholesome house for a new tenant. *Sixthly,* the wholesale condemnation of unsanitary streets and blocks, and the rebuilding by the municipality, as has been done in

Glasgow and elsewhere. We cannot make people cleanly or virtuous by act of the legislature; at the same time we cannot leave important sanitary details in the hands of irresponsible persons whose view of life is limited to returns and rentals. The extraordinary reduction in the mortality from consumption in the large cities is due directly to an improvement in environment. That much more remains to be done in the way of betterment the facts I have presented fully show.

III.

And then we have to face the all-important fact that at present an immense majority of all tuberculous patients have to be treated at home. Probably not 2 per cent. of the cases can take advantage of sanatorium or climatic treatment. What has the new knowledge to say to the 98 per cent. which is debarred from the enjoyment of these two great *adjutores vitæ*? Very much! Read aright, a message of hope to many. Just as we have learned that climate in itself is not the prime essential, but a method of life in any clime, so we have found that even under the most unfavorable surroundings many cases recover in town and country, if rigid system and routine are enforced. But "Hope, that comes to all," as the poet sings, comes not to the large proportion of the unhappy victims in our overgrown and crowded cities. What but feelings of despair can fill the mind in the contemplation of facts such as I have laid before you in the analysis of our inspection in Baltimore? So numerous are the patients that private beneficence shrinks at a task, which the city and State authorities have not yet mustered courage to attack, except in one or two places. Hospital care for advanced cases, sanatorium treatment for incipent cases, can only be provided by an enormous expenditure, but we must not be discouraged, and the good work begun in Massachusetts, New York, and in this State will grow and prosper. After all, the campaign in which we are engaged is one of education; only let us not forget that teaching has not all been on the side of the profession. We have all been at school during the past quarter of a century, and at school we must remain, at once teachers and pupils, if we are to make the knowledge we possess effective. We are not living in Utopia, and in the matter of sanitation the man on the street is a blundering, helpless creature whose lessons are put bodily into him at a heavy cost of life and health. You know this story only too well in Philadelphia. To provide accommodation for all consumptives is impossible, but it is not unreasonable to look forward to the day when every large city will have a sanatorium for the treatment of the early cases, situated not far from its outskirts, with all the equipment for open-air treatment. Let there be some place at least where a poor workingman or workingwoman may

take a chance for life. Now, as we doctors know only too well, hundreds are sacrificed in whom the disease could have been arrested. The hospital care of the very sick should be provided for in special wards of the city hospitals. To give the best of care to these unhappy victims is a true charity to them; to place them where they cease to be a danger to the general health is a true charity to others.

In the warfare against tuberculosis the man behind the gun is the general practitioner. The battle cannot be won unless he takes an active, aggressive, accurate part. That he is not always alert must be attributed in part to the carelessness which a routine life readily engenders, and partly to a failure to grasp the situation in individual cases. The two points to be impressed upon him are first, *that early recognition of the disease can only come from better methods of practice and greater attention to the art of diagnosis.* The insidiousness of the onset, the protean modes of advance, and the masked features of even serious cases should never be forgotten. As Garth so well puts it in his dispensary (1699):

> "Whilst meagre *Phthisis* gives a silent blow;
> Her *stroaks* are sure; but her advances slow.
> No loud alarms, nor fierce assaults are shown,
> She starves the *fortress* first, then takes the *town.*"

Too often precious time is wasted and the golden opportunity is lost by the failure of the physician to make a thorough examination of the chest. I am every day impressed with the necessity of more rigid, routine examination, even of the "ordinary case." In illustration of the carelessness which is so readily acquiesced in, let me mention a patient who was brought to me only a few weeks ago, supposed to have a protracted fever after typhoid. Her father a physician, her husband a physician, and it is scarcely credible that neither of them had the faintest idea that the poor soul had advanced consumption, though it had reached a stage in which there was shrinkage of one side of the chest, and the diagnosis could almost be made by inspection alone. The carelessness is a sort of mental inadvertence, to which even the best of us at times seem liable. A very distinguished and careful physician brought his daughter to me a few years ago to have her blood examined, as he felt sure she had a chronic malaria. She had little or no cough, but an afternoon rise of temperature, and it turned out to be the usual story—quite pronounced local disease at her left apex. There had not been a suspicion on the part of her father or of the family.

On the other hand, we must be careful not to diagnose tuberculosis too readily. The physicians of our sanatoria have a good many tales to tell in this matter.

The second point is the *necessity for a more masterful management of the early cases.* Here comes in that personal equation so important in practice, and which has such a vital bearing in the prognosis of the disease. The dead hand of the Arabian still presses sore upon our practice, and precious weeks are too often lost in trusting to a poly-pharmacy which in some instances would make the heart of Avicenna or Averroes to rejoice. It may seem hard to say so, but my firm conviction is that more tuberculosis patients are injured than helped by drugs. We have not yet come to the belief— to the practical belief, at any rate—that the disease is not to be *treated* by them. After so much has been written and spoken one would suppose that the essential features of the treatment of the disease were generally recognized, but the practical experience of any man who sees a great deal of tuberculosis is directly to the contrary. It is not so much that the drugs do harm *per se,* but that weeks of priceless value are lost in trying to check a cough and quiet a fever in a patient who is allowed to continue his work and is up and about. I cannot agree with a recent writer who says that the tendency at present is rather to make too little than too much of medicinal treatment. Perhaps in advanced cases we are more sparing, but in early stages I *know* that we are still leaning on the Egyptian reed in which our fathers trusted, and trusted in vain. Year by year I see only too many instances in which the mental attitude of the physician toward the disease clearly indicates that the idea of an efficient home treatment by fresh air had never been entertained. What I would like to plead for most earnestly is this home treatment of early cases by modern methods. I am not addressing myself now to city physicians. But I would appeal to the practitioners in the country and in the smaller towns and in the suburbs, where the conditions are so much more favorable. I have been much interested for several years past in a group of cases scattered all over the country, usually in the farmer or mechanic class, in which I have supervised with the physician a home treatment, often with striking success. The remarkable case which I reported in 1900 gave me great encouragement, as the complete arrest of the disease was accomplished under the most primitive surroundings by the persistence and devotion of the patient herself, who richly deserves the good health she enjoys to-day. There have been disappointments; all cases are not suitable, all cases are not curable, and it is not easy to say which ones are likely to do well. The most favorable looking patient with a small patch at one apex may have a progressive disease and die in the best of surroundings, while a case with high fever, sweats and an extensive lesion may improve rapidly. On November 24, a fine, stalwart fellow came to see me, in whom I did not recognize the *poitrinaire* of September 28, carrying his diagnosis in his face. The sun-

shine and open air of a Maryland village had been enough, enough, at any rate, to put him on the high road.

Let me mention in a few words the essentials in this home treatment of consumption in the small towns, country places and the suburbs of our large cities. *First,* the confidence of the patient, since confidence breeds hope; *secondly,* a masterful management on the part of the doctor; *thirdly, persistence—benefit is usually a matter of months, complete arrest a matter of years, absolute cure a matter of many years; fourthly,* sunshine by day, fresh air night and day; *fifthly,* rest while there is fever *sixthly,* breadstuffs and milk, meat and eggs.

Let us not forget that it was a country practitioner, George Bodington, of the little town of Sutton Coldfields, in Warwickshire, who, in 1840, revived the open-air treatment of tuberculosis. "To live in and breathe freely the open air, without being deterred by the wind or weather, is one important and essential remedy in arresting its progress—one about which there appears to have generally prevailed a groundless alarm lest the consumptive should take cold." And he gives a number of cases showing the good effects of the open-air treatment. He seems to have carried it out on the plan which was strongly advocated by Sydenham, which was a combination of open air and riding or carriage exercise. There are few things more striking in the writings of Sydenham than the insistence with which he states that consumption is curable. It is worth quoting a paragraph which I take from Locke's "Anecdota Sydenhamiana," as it is put in a more striking way than in his general work. "I am sure that if any physician had a remedy for the cure of a phthisis of equal force with this of riding he might easily get what wealth he pleased: In a word, I have put very many upon this exercise in order to the cure of consumptions, and I can truly say I have missed the cure of very few; in so much that I think how fatal soever this disease be above all others, and how common soever; (for almost two-thirds that die of chronical diseases die of a phthisis), yet it is this way more certainly cured than most diseases of less moment: Provided always that this travelling be long persisted in according to the age of the patient, and length of the disease. . . . Women or very weak men that cannot ride on horseback may ride in a coach and yet attain the same end, as I have seen by often experience." In reality this practice of Sydenham never died out, but it was in practice in New England in the early days and throughout the eighteenth century. The late Henry I. Bowditch, who did so much to further the study of tuberculosis in this country, states that he followed it in his own case.

Let me conclude with a quotation from De Quincey, which puts in graphic language the question which so many generations have asked,

and asked in vain, but which we have been permitted to answer in part at any rate, and to answer in hope. "If you walk through a forest at certain seasons, you will see what is called a *blaze* of white paint upon certain *élite* of the trees marked out by the forester as ripe for the axe. Such a blaze, if the shadowy world could reveal its futurities, would be seen everywhere distributing its secret badges of cognizance amongst our youthful men and women. Of those that, in the expression of Pericles, constitute the vernal section of our population, what a multitudinous crowd would be seen to wear upon their foreheads the same sad ghastly blaze, or some equivalent symbol of dedication to an early grave. How appaling in its amount in this annual slaughter among those that should by birthright be specially the children of hope, and levied impartially from every rank of society! Is the income-tax or the poor-rate, faithful as each is to its regulating time-tables, paid by *any* class with as much punctuality as this premature *florilegium*, this gathering and rendering up of blighted blossoms by *all* classes? Then comes the startling question that pierces the breaking hearts of so many thousand afflicted relatives: 'Is there no remedy? Is there no palliation of the evil?' It is one of the greatest triumphs of scientific medicine to be able to reply, Yes, the evil may be palliated and is rapidly being lessened, and for many at least, a remedy has been found."

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## GOITRE IN A NEW-BORN CHILD.

By W. T. BURNS, B.A., M.B., Toronto.

The day after its birth, the child, a female, became very cyanosed, the breathing being extremely labored. This lasted for several minutes, when, gradually, the breathing became more easy and the child regained the normal color. It was at this time that I noticed the enlargement on the neck which I took to be a goitre. It was very pronounced, the tumor showing on both sides and in front of the trachea.

These attacks of dyspnoea and cyanosis occured frequently for the next few days. On the sixth day, the child was free from them and I noticed a distinct diminution of the size of the tumor. On the ninth day, the child died.

The autopsy showed a greatly enlarged thyroid gland of a consistency which was nearly fibrous. On each lobe were several cysts full of a clear fluid; and, on the left one, the remains of a large cyst which had reptured. The rupture of this cyst was probably the cause of the decrease in size of the tumor, remarked on the sixth day.

The gland was placed high up, being near the hyoid bone, and was closely adherent to the trachea.

# EYE-STRAIN FROM THE PHYSICIANS' POINT OF VIEW.*

By G. H. BURNHAM, M.D., C.M.
Professor of Ophthalmology, University of Toronto.

THE first question naturally asked is, what is eye-strain?

Eye-strain is a condition of the eye owing to its faulty shape which causes it to make more than the natural or physiological efforts to focus any object, that is, to get a clear view of an object. This peculiarity of shape is not visible to an observer; though, perhaps, there are certain peculiar appearances, which may arouse the suspicion of an expert.

This condition may be present and give rise to no symptoms of eye-strain whatsoever. That is, a condition of irregularity of shape and focusing power may exist and still the person be quite free from any symptoms. This is quite often the case. When this state is accidentally found out, it is my usual rule to let the eyes alone, that is, not to give glasses. However, with this latitude, always explain to the person its presence, and the fact that if a certain train of symptoms arise this condition is probably the cause.

Eye-strain does give rise to so many nerve storms that to any member of the profession, save the expert, it savors of exaggeration. We oculists deny this, and assert, on the contrary, that we ourselves are often astonished at the unexpected benefit which arises from the relief of eye-strain. Many examples can be given of the wonderful healing power of the correction of eye-strain.

It is, of course, now allowed by the profession that a prolific cause of headache is eye-strain. This fact, however, had to be again and again insisted upon and demonstrated before the general profession would even entertain it.

Nervous diseases, before eye-strain was regarded as of any importance, were diagnosed and prognosed in very many cases as being associated with marked structural changes. No one was so certain that these conclusions were correct as the pathologist. I wish to say that the dogmatism of the pathologist, as to what conditions of the nervous system, as evidenced by symptoms during life, could be cured or remedied or was beyond aid, was based upon his interpretation of tissue changes, as seen after death, and has been responsible for many a gloomy prognosis which should not have been given.

As a student, I worked under Dr. Hughlings Jackson, a clinical observer who, in acuteness and accuracy of observation, was unrivalled. Then we, I well remember, looked upon many phases of abnormal states of the nervous system as due to structural changes, incurable, or almost so, which we now know were only due to the teasing of the nerve centres

*Read at the Toronto Medical Society, 16th February, 1905.

by improper activities of other organs. No organ has been so prolific a cause as the eye.

There is a type of nervous depression which consists of a general weakness of the nervous system, only temporarily lessened by internal remedies, which is due to eye-strain. In this type the patients disclaimed any such connection, for as they say, which is true, I see well with the eyes, have no headaches, have no complaint of any kind to make of the eyes. I simply complain of a general weariness and languor. This is a type in which eye-strain is a marked factor, though it is so insidious as often to escape notice.

In these cases, eye-strain is not always the cause or even sometimes one of them; but a careful examination can always demonstrate whether it be or not.

That certain varieties of epilepsy have been stopped and permanently so by correcting the eye-strain, is now an acknowledged fact.

The range of this class of cases is limited and is not as far reaching as some have thought. Disorders of the stomach and bowels, as inability properly to digest food, severe attacks of pain in the stomach, vomiting associated or unassociated with headaches, are also its offspring. Several years ago I had a business transaction with a man who was so peculiarly irritable that I was on the point of speaking to him about his want of ordinary decent manners. However, I did not; for, on observing this man he seemed to me to have a very irritable nervous system. He was apparently a thoroughly healthy man. Three years later this same man saw me professionally. He said I have been suffering for years from indigestion, pain in my stomach, vomiting, headaches and am now so bad that something must be done. I have come to consult you as an oculist. Physicians have not been able to help me. I come of my own accord and not at their suggestion, for they have never mentioned such a thing. Even now I do not think it is my eyes, as my sight is so good. He said often the attacks were so severe that he had to remain at home one or two days each week. I tested his sight and found an error of refraction with weak ocular muscles. I gave him glasses and then proper exercises for the eyes, with the result that he has now been quite free from any such attacks for nine months.

A man several years ago consulted me, suffering so acutely from pain in his left eye and side of head that hypodermic injections of morphine had to be given. The right eye, he said, had been about blind for years, and that previous to this his right eye and side of head had ached as the left was now doing. Consequently he was very anxious. I found the right eye with a normal fundus. With proper glasses the vision was normal. The left eye with proper glasses gave normal vision. With the constant

wearing of the proper glasses for distance and reading all symptoms went away, and he is well up to this day.

The eyes with normal vision, or even that in excess of normal, may and, as a rule, do suffer the most from eye-strain. The reason is that these eyes can, by exertion, focus so as to see clearly and, consequently, they always make this exertion. However, from these eyes very severe and, even the most severe, nerve storms may arise; for this continued abnormal exertion so irritates the nervous centres that they cannot finally bear the strain.

In these cases, it is especially difficult to give glasses accurately, as there are such irritation of the retina and weakness and spasm of the eye muscles. I mean that it is quite easy to give the eyes good vision with glasses; but it is very difficult to get the eyes to take the proper glasses.

The so-called opticians have sprung into existence purely as the result of commercial greed and, as a class, are doing much harm.

The maker and seller of spectacles inaugurated the following scheme to line their pockets. This will exemplify one of the evils of allowing the commercial world to exploit medicine in order to get the public's money. The formation of the so-called schools in which men could be trained to give glasses was begun. The course was of two to three weeks duration. At the end, a diploma was given saying, the one herein mentioned is in every way capable to give glasses for every variety of eye-strain. The poor owner of the certificate, or dupe, I should like to call him, believed it, I suppose.

Then the companies sold to each graduate, or optician, or doctor of refraction, a set of trial lenses and a quantity of spectacles and, moreover, arranged to fill any orders for glasses that were sent in. In this way came the profit, and a big one it has turned out to be. At first, in fact, it is still the same, there came from every corner of the country bakers, shoemakers, grocers, druggists, jewellers, etc., to take this highly advertised and money making course. They returned home, hung up their diplomas, and went to work. Thus do these people, ignorant of any knowledge of the eye, in three weeks audaciously claim to have learned to be able to practise properly one of the most difficult branches of ophthalmology.

They do not hesitate to prescribe glasses for every eye no matter how poor the vision or how little improvement they may be able to make.

Of course, any form of disease of the eye may be present and of that they are unaware, and give no thought to unless it be glaring. Some of these so-called opticians are too ignorant to be able to guage their own ignorance and, hence, go on. Others again are heedless and deal out glasses with about as much care as sugar or tea. Others again are out and out fakirs.

I now do accuse the general profession of being culpably ignorant and thoughtless in this grave matter. They constantly send their patients, suffering from the effects of eye-strain to one of these so-called opticians. Some of them do more. They send them to fakirs, and aye, even worse, do employ full-fledged fakirs to attend to these patients, at their patient's houses, or in their own hospitals. This support the opticians fully publish and through it they are able to still any question of the public. This support they again use as a lever to exalt their own importance and standing.

One of the offices of the general physician is to tell his clients when it is necessary for them to consult a specialist.

The practice of this duty does not loosen their hold on their clients; it strengthens it. The right minded specialist gladly commends them for it. How much more pleasant it is to say, your physician did quite right to send you to me, than to have the patient say, when the whole case is brought out so that he himself can see, why did not my physician suggest this to me, or why did not my physician send me to an oculist? When physicians thus patronize irregulars how can they rightly demur to druggists prescribing for the ills of people? For these irregulars, as opticians undoubtedly are, though some will honestly deny it, merely dabble with the eye, treating it as if it were a piece of machinery and not liable to all kinds of serious affections to which often the eye, viewed externally, gives no, or very slight, clue.

Oculists, when a case is brought to them, suffering from eye-strain and when it is proved that marked errors of refraction are present, test with great care. The more the oculists know or have had to do with these cases, the greater is the care they take. If the glasses do not give relief, they do not say the symptoms are not due to the eyes, as I have given glasses more than once. On the contrary, so difficult to manage are eyes so affected that we again test and work for some still hidden error. For an eye, racked by long overstrain, will not at first give up its secrets. After the rest from the glasses which have been properly given, a quieting of the eye is brought about and then we can get further into its peculiarities.

We test with all the means at our command, for we realize that the missing of some hidden error may mean unrelieved misery. One curse and a rapidly expanding one is the efforts of men to prostitute, to commercial gain, the discoveries made in medicine. It is a biting comment on our boasted care for the individual that we allow patent medicines to be so shamelessly brought to the notice of the public. So little cares the State that it does not even inquire into their ingredients. Under the guise of patent medicines, a great quantity of vile spirits are sold.

Our duty being to prevent the continuation of everything prejudicial to health, as well as to cure disease, must always make us a foe to all

these schemes, no matter how veneered with apparently right ideas. For, as is well known, the more deceptive the veneer of truth the more injurious is the concealed danger that lurks underneath. When it is told to a commercial man that when a member of the medical profession makes a discovery, which places him in decided advance of his fellows, he does not patent it, does not keep it to himself, he is astonished. His object in life being to cure disease, to relieve misery, not to make money by leaps and bounds, he goes to work most carefully and, with much expenditure of time, teaches his professional brothers. Thus, in a short time he promulgates, far and wide, his discovery. The man of commerce, if this idea has never been present in his mind, smiles, with an air of unbelief; if he does know that it is done must, if he has a grain of chivalry in his nature, own that the medical profession is a calling rightly called almost divine in its exhibition of care for the public. Do they act as if this were a truth beyond dispute? They do not. Again comes in the every day grovelling spirit of commercial life and ignores it. When we ask to be decently treated, when we ask for large grants of money from the public chest, a refusal is our answer, or a grant so small that we ourselves have to supplement it as we have had to do in this very university of Toronto. Our remuneration is so small in proportion to our labors as to be a very poor return. Our professional code teaches us to care for our fellowman; but these fellowmen in return publicly give us but the veneer of gratitude; do not give us that which will cost them some self-denial; do not, will not see, that times without number it is shown to us that the path of our duty, the one which we must follow, is not to our financial advantage, but is in full accord with the principles of our profession.

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## THE HOUSE OF COMMONS ON TUBERCULOSIS.

A lengthy discussion occurred in the Commons on 20th February upon the necessity for taking some steps to diminish the ravages of consumption. Mr. Perley brought up the subject in a capital speech, and several members on both sides of the House joined with him in urging the Government to act.

Mr. Perley (Argenteuil), in moving his resolution declaring that it was expedient to take steps to combat the spread of tuberculosis, said that although a layman both in medicine and law, he felt justified in bringing this subject before the House by reason of the interest which he took in it. From reports which had come to him it appeared that in 1903, 60,540 people died in the Provinces of Ontario and Quebec. Out of this number in Quebec, 2,943 died from tuberculosis, while only 2,017 died from all other contagious diseases. In Ontario, during the same year,

2,723 died from tuberculosis, while only 1,938 died from all other contagious diseases. For the entire Dominion the number of deaths from consumption last year was about eight thousand. Mr. Perley spoke of the ravages of the disease, which he said was easily communicable, and was as easily preventible. Excellent work had been done by sanitariums throughout Canada, of which there were three in Ontario, with a capacity of 210 cases, one in Quebec, capacity 18 patients, and one in Nova Scotia, with a capacity of 16 patients. The Canadian Association for the Prevention of Tuberculosis, was doing a great deal to educate the people on this subject. With the concerted efforts of the municipalities, the several provinces and the Dominion authorities the progress of the disease could be stayed. He felt it was a duty devolving upon the Dominion Parliament to assist in the erection of sanitariums. He believed that a successful fight against tuberculosis could only be made from one central authority, the head of which should be the director-general of public health. Each person who died from tuberculosis represented an annual earning capacity of $1,000, so that every year there was lost to the country through this disease equivalent to eight millions. If only half the number of lives which were lost from tuberculosis could be saved how the country would benefit. He found nothing in the British North America Act which would prevent the Dominion Government from dealing with this matter. (Applause.)

Mr. Johnston, (West Lambton) seconded the motion in a brief speech, strongly urging the Dominion Government to do something on the lines suggested by Mr. Perley.

Dr. Daniel (St. John) considered Mr. Perley was deserving of the thanks of the House and the country for bringing up this question. Personally he thought tuberculosis could be eradicated. He spoke of the importance of Koch's discovery, and urged the Government to give this matter its sympathetic consideration.

Dr. Sproule (East Grey) said that Parliament took greater interest in the health of brute creation than of human beings, and he commended Mr. Perley for reminding Parliamentarians of their duty. The tuberculin test was applied to animals, but it was not applied to immigrants, and he thought our immigration inspection laws were lax in this respect. Parliament could do a great deal towards stemming this disease. It could educate the public to take precautionary measures, and still better, it could give substantial aid to assist in keeping up the sanatorio.

Mr. Schell, of South Oxford, supported the motion, giving figures to show that several counties in Ontario were meeting with success in fighting tuberculosis. Educational work had been going on for the last three or four years, and had made much progress.

Dr. Schaffner, (Souris) said it had been proved that the educational effect of the sanatorio had been very valuable, and people no longer objected to having them established in their neighborhood. In Manitoba, a request to municipalities had brought subscriptions from 80 per cent. of them for sums ranging from $25 to $100.

Mr. Fisher said the appeal made by Mr. Perley was one that the Government should not refuse. In the matter of public health the Dominion had charge of the establishment and maintenance of frontier quarantine stations. The provinces were given the duty of attending to hospitals, etc. Certain work was definitely allotted to the provinces, and it would be inadvisable and impolitic for the Dominion to interfere with it. It would be inadvisable, he thought, to vote any sum for the support or assistance of a sanitarium for tuberculosis as well as for any other disease. There was, however, a very large work that could be done from a hygienic point of view. A small vote taken annually had already been used for obtaining and disseminating information. This had been done at the request of the Association for the Prevention of the Spread of Tuberculosis. No scheme had been promulgated for enlarging this work. If such were done the Government might with propriety increase the vote. Ways might be found to do this without encroaching upon provincial efforts. The establishment of sanatorio had been placed in the hands of the provinces, and had been very successfully commenced. As to the tuberculine test he did not think it could be applied to human beings. In conclusion Mr. Fisher expressed sympathy with the cause, and said that if the Government could do more than it was doing it would be right for them to do so. He would support the motion with these reservations.

Mr. Borden said the House was under a compliment to Mr. Perley for introducing the subject. The fact that the medical men in the House had spoken so strongly in favor of the motion was very significant. It was desirable to wipe out the scourge. Parliament had power to deal with the question, and should not leave it to private individuals. If the resolution were carried the Government would be bound to find out what could be done to lessen the dangers of the disease. There were many ways in which this could be done, by the dissemination of literature, for instance, and by giving financial assistance. Quoting from decisions of Lord Herschel in the Judicial Committee of the Privy Council, Mr. Borden showed that it was well within the power of the Dominion to enact laws for the promotion of public safety, order, or morals, and to pass general sanitary regulations, applicable to the whole Dominion. The question was one of national interest and importance. He had no doubt that a measure could be devised by Parliament to deal with the subject effectively, having regard to the interests of the whole Dominion.

Mr. Miller (South Grey), spoke in favor of the resolution, saying that he would like to see a commission appointed to obtain information upon the subject.

Mr. Perley spoke again briefly, calling attention to the fact that a law of a similar nature had been in force in 1868, when the men who brought about Confederation were in the House. If it had been contrary to the provisions of the British North America Act these men would have noticed it.

Sir William Mulock said there could be no objection to the motion passing.

The motion was carried.

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## THE VALUE OF PUBLICITY REGARDING TUBERCULOSIS.

D. Lewis points out that the only hope for success in the combat with tuberculosis, lies in a widespread dissemination of knowledge concerning the disease among all classes of society. The matter of first importance is to help the people help themselves, and let them know the truth about every phase of the malady, and its danger to the individual infected, and to others who come in contact with him. The question is a most far-reaching one, and the State, as a whole, is deeply concerned, and should assume an active part in taking measures to restrict infection, and to assist the poor who become diseased. Rational prophylaxis requires especially safeguarding of the child, and this must be carried out on the broadest possible lines. Public facilities for securing wholesome milk for the poor, the provision of temporary homes for infants of tuberculous parents, supervision of the children in schools and employed in factories, and the proper education of parents, are all essential features. Where the adult is concerned, the problem has a bearing on almost every phase of public and private relationships, and building laws, control of water and food supplies, sanitary regulation of conditions in factories, public conveyances, jails, lodging houses, etc., are of paramount importance to intelligent prophylactic endeavor. There is still much to learn, but the essential fact to remember is the necessity at present of disseminating the knowledge that we already have.—*Medical Record,* January 14, 1905.

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# CURRENT MEDICAL LITERATURE

## MEDICINE.

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

### THE PATHOLOGY OF EPILEPSY.

The conclusions to the chapter on pathology in Dr. Spratling's book are as follows:

1. Epilepsy is a cerebral disease attended and followed by profound and diffuse cortical degeneration.

2. The morbid changes concern chiefly the destruction of the nuclei of the cells of the sensory type from which the primary departure of the disease originates. Its terminal pathology is a progressive gliosis more or less marked and diffuse.

3. Epilepsy is essentially a sensory phenomenon with a motor manifestation.

4. Its etiopathology rests with a variety of toxic or autotoxic agents not as yet definitely isolated or determined.

5. The disease is grafted upon a cortical organic cellular anomaly, which is induced largely by a faulty heredity, the exact anatomic nature of which is not known.

Jolly reaches the following conclusions:

1. In the brains of epileptics, dating from childhood, are observed glia proliferations, doubtless due to an original developmental anomaly.

2. Other glia proliferations, especially the irregularly-distributed processes with marked cell increase, are associated with encephalitic processes which date in the majority of cases from childhood.

3. Similarly, in cases in which the epilepsy develops in later life as the result of focal disease, glia proliferation occurs most markedly in the neighborhood of such foci.

4. Epileptics, both early and late, tend to show an increase in the glia mesh and the nuclei in proportion to the decrease in intelligence.

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### DIAGNOSTIC SIGNS IN EARLY PHTHISIS.

In the *Australasian Medical Gazette,* Hirschfield of Brisbane, calls attention to a number of features that are of value in the diagnosis of early tubercular involvement of the lungs. Among others, the characteristic

feature of the early consumptive is the susceptibility of his body temperature to the temperature of the surrounding atmosphere; he continues:

1. There are two factors which raise the otherwise normal temperature of a consumptive patient—heat of surrounding atmosphere and exertion.

2. Each factor is capable of producing the same result by itself; both combined have a greater effect.

3. During the summer or on unusually hot days at other seasons the effect of the outside heat will raise the temperature of the phthisical patient to between 99.2 and 100.4 degrees maxilla if the patient is following his usual occupation without making any special exertion.

4. This rise of temperature can best be noticed early in the afternoon, between 1 and 3 p.m.; the digestion subsequent upon a meal acting evidently in the same manner as bodily exertion.

5. The effect of outside heat is not marked upon the morning temperature; it may be marked by an abnormally low temperature we are so frequently meeting with in tubercular subjects.

6. If the tuberculosis of the lungs is accompanied by fever, the course of the temperature will be raised by great outside heat by between 2 or 3 degrees, although the patient be absolutely resting.

7. In young and excitable people the rise is more marked than in older and more phlegmatic patients, the fact of coming to see a medical man tending to raise the temperature of the tubercular.

8. Women who menstruate are subject to a rise of temperature without there being anything else the matter with them.

It is well known that cavity formation is accompanied by the appearance of curvature of the spine, but Dr. Hirschfield states that in cases in the early stage, or rather where they have passed through the early stage and have a healed lesion, we can find evidence thereof in the deviation of the spine from the perpendicular, the concavity being towards the healthy side.

Expansion is of little value in the detection of early cases, unless there are pleuritic pains associated. The writer calls attention to a distinctive smell which he has associated with the disease, arising from the breath and comparable to the smell of the breath of diabetic patients; it is not to be smelt on the expectoration and has been noted by other observers, especially in hot climates.

## DEATH AND BIRTH RATE IN FRANCE.

The vital statistics of France show, says an exchange, a continuance of the decrease in the birth-rate as compared with other nations, for while the excess of births over deaths in 1901-1902 was 21 per 10,000 inhabitants, the ratio for the same period in Germany was 153, and in Great Britain 119. The official figures just published of the population of France in 1903 are as follows Births, 826,712; deaths, 753,606; excess of births, 73,106; excess in 1902, 83,944. The population of France in 1902 was 38,961,945, and in 1903 was 39,119,095, but in 1903 there were 18,666 fewer births than in 1902. The number of deaths was fewer by 7828 than in 1902. It is pointed out in the report that the increase of population was not due to any increase in the general birth-rate, but solely to the steadily declining death-rate.

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## CHEMICAL INCOMPATIBILITIES.

Chemical incompatibility may be apparent in three ways:

1. By precipitation or the formation of insoluble compounds.
2. By the evolution of gas.
3. In some instance by changes in the color of the mixture.

The largest class is included in the formation of insoluble compounds by precipitation. This precipitation takes place when two salts, combined, form an insoluble salt by the interchange of radicals. The most important incompatibilities are included in the following table as arranged alphabetically by M. L. Neff, for the convenience of the practitioner:

1. Acids or acid salts are compatible with: alkalies and alkaline salts; alcohols (tinctures) and glycerin; hydrates and carbonates; glucosids; bases; relatively weak or volatile salts.

2. Alkalies are incompatible with: alkaloids and their salts; chloral; acids and their salts; relatively weak salts (halogens); metallic salts; calcium and magnesium salts.

3. Alkaloids and their salts with: alkalies; alkaline salts; halogen salts; tannic acid; phosphoric acid; boric acid and sodium borate; hydriodic acid; carbonic acid and the carbonates.

4. Arsenic is compatible with: tannic acid; salts of metals, especially lead and silver; lime; magnesia.

5. Aqueous solutions are incompatible with: chloroform; metallic salts; essential and fixed oils; alcoholic tinctures; fluid extracts; resinous tinctures.

6. Hydrargyri chloridum mite (calomel) with: antipyrin; alkalies (lime water, etc.); potassium iodid; salts of iron and lead.

7. Carbonic acid and carbonates are incompatible with: iron salts; metallic salts (especially iron); salts of magnesium and calcium; acetic acid (syrupus scillæ).

8. Aqua calcis is incompatible with: salts of mercury (sometimes intentional); carbonates of alkalies; morphin and quinin salts.

9. Mucilages are incompatible with: alcohol and nitrous ether; iron; aqua plumbi; mineral acids.

10. Nitrous ether (sweet spirits of niter) is incompatible with: tincture guaiac; mucilages; antipyrin; ferri sulphas; most of the carbonates.

11. Oxidizing substances, including the permanganates, chlorates, nitrates, etc., are incompatible with: charcoal; ammonium chlorid; tannic acid; sulphur; glycerin.

12. Phosphoric acid and the phosphates are incompatible with: alkaloids; metallic salts, salts of magnesium and calcium.

13. Tannic acid is incompatible with: alkaloids; metallic salts (especially iron and lead); arsenic; digitalis; albumins and gelatin.

14. Gentian preparations will produce a change of color in the mixture when combined with: iron salts; infusion of prunus virginianæ; infusio cinchonæ comp.; silver nitrate; lead salts.

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## REASONS FOR ABANDONING THE URIC ACID THEORY IN GOUT.

In *the British Medical Journal* for January 21st, Watson of Edinburgh discusses this rather vexed question. The uric acid theory still holds foremost place in the regard of British physicians, but it is being abandoned or modified by many investigators. It received support from Garrod's experiments on the blood of birds, he failed to find uric acid there and Luff interpreted a similar result to mean that uric acid is normally produced in the kidney. The writer examined these results and in four observations on the blood of domestic fowl found a weighable quantity in three and a reaction in the other; he states that Luff has modified his statement in later writings. This negatives the claim that the acid is formed in the kidney.

He then examined six forms of pathological fluids and found uric acid in all although these had no relation to gout, while in leukaemia it may be found in greater quantity than in gout and without any similar manifestations, he finds from this that the presence of this acid in the blood cannot be the causal factor.

Finally he examined the excretion of uric acid during the different stages of the disease and found that there was no variation that would

suggest support for the retention theory. Examination of the pathological appearances in gout led to the belief that there were necrotic areas with a definite relation to the vessels of the part suggesting an infection by the means of the blood stream. Stress was laid also on the appearance of the bone marrow, especially on the disappearance of the marrow proper, and the rarefaction of the bone-trabeculae.

The general conclusions of, the observer are (1) there is an infective element in the disease;(2) uric acid is the feature that gives the inflammation its specific character. This view is supported by the clinical picture of an acute attack.

## CHOREA.

W. G. SPILLER, Philadelphia (*Journal A. M. A.*, Feb. 11), thinks that the relation of chorea to rheumatism has been greatly over-estimated. In most of his cases he could not detect it. He also has not been able to recognize any peculiar facies of the disease, nor does he agree with Gordon and Eshner that there is any peculiar characteristic of the patella reflex in chorea. The arsenical treatment of the disease does not seem to be without disadvantages and should be watched very closely. He has seen arsenical neuritis and idiosyncrasy. The pathology of the disorder is still obscure. The "chorea bodies" are not characteristic. Apoplectic hemihypertonia is distinct from athetosis; the spasm is tonic, unilateral, associated with a little weakness, but not with contractures, develops after an apoplectic attack, and is probably due to irritation of the motor fibers below the cortex. Spiller does not accept Kahler and Pick's theory of the choreiform movements being caused by irritation of the pyramidal tract. It is hard to understand the comparative rarity of hemichorea if this were the case.

## SANITARY PRECAUTIONS IN THE CANAL ZONE IN PANAMA.

In the *Medical Record,* February 4th, Dr. Gorgas of the United States Army describes the measures that are being taken to lessen the danger from disease to the workers on the projected Isthmian Canal, and an especial interest attaches thereto as it is one of the most extended public undertakings that has been inaugurated under tropical conditions since the advances that have been made in sanitary science.

There is a tract of country stretching for fifty miles with a population, urban and rural of 12,000, over 70 per cent. of whom by actual investigation are capable of conveying the contagion of malaria and that too, of the deadly Chagres fever or estivo-autumnal form; the Anopheles is everywhere to be found. The menace to life that this offers and the

practical increase in the difficulty of the undertaking and in the consequent expense in lives and money were well exemplified in the case of the Suez Canal.

The methods adopted are two-fold, first to destroy as far as possible the breeding places of the mosquito along the line of the works and the rendering immune of the population by proper treatment, and the sequestration of active cases of yellow fever so that they may not offer infection to the insects. The Panama government has given to the Medical Officer of the United States Government a free hand in the matter and a series of hospitals are being set up suited for the care of the sick in the various stages of the diseases. The results will be watched closely by all interested in public health work.

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## DR. TIRARD ON SOME NEW REMEDIES.

At the December meeting of the Therapeutical Society Dr. Tirard read a valuable paper on some clinical observations on certain new remedies. Uricedine, he said, or lithium citrate, with lemon juice and soda had been recommended for gout, uric acid concretions, and rheumatism. Really it chiefly acted as a laxative, and did not relieve the pain of gout, nor dissolve uric acid concretions. Its dose was 1 to 2 drachms. Urotropine made from formaldehyde and ammonia was said to be a diuretic which relieved cystitis bacilli in urine, but unless well diluted it might cause hæmaturia, and sometimes strangury, albuminuria and abdominal pains, such bad symptoms, however, did not happen if each dose were diluted with 5 oz. of water. In cases of offensive urine, and in doses of 5 to 15 gr., with uric acid sand, he found it to remove the offensive smell and diminish the sand. Aspirin, or acetyle-salicylic acid, was not better than salicylic acid, and often produced dyspepsia and profuse perspiration, sometimes diarrhœa. In headache from overwork in gouty persons, it often relieved the pain, and caused sleep, but the patient should be in bed after taking it, because of the perspiration. The dose was 10 gr., given in tablet form, since it was very insoluble in water. Mesotan, or mesoxylester of salicylic acid, was readily absorbed by the skin if applied with olive oil. It relieved the pain and stiffness of rheumatism when fever ceased. Sometimes it irritated the skin if rubbed on it, or if covered too thickly, or if mixed with water. It should be painted on with a brush, and well diluted with olive oil without water. Ovoferrin, made by heating iron tartrate with serum albumen, increased the hæmoglobin. In a severe case of pernicious anæmia, its use with liquor arsenicalis, 15 minims thrice daily, increased hæmoglobin 64 per cent. It should not be diluted till taken, or it might decompose.— *Med. Times and Hosp. Gazette.*

## DIFFERENTIAL DIAGNOSIS BETWEEN EPIDEMIC AND TUBERCULAR MENINGITIS.

| | EPIDEMIC FORM. | TUBERCULAR FORM. |
|---|---|---|
| Onset, | Sudden, | More insidious. |
| Coma, | Comparatively early, | Rather late. |
| Spinal symptoms, | Symptoms prominent, | Inconspicuous. |
| Retraction of head, | Early symptoms and rigidity, | Seldom seen. |
| Course, | Runs at times a rapid or acute course, | As a rule runs a more protracted course. |
| Skin eruptions, | In more than half the cases; herpes, petechial, | Rare and not herpetic or petechial. |
| Lumbar puncture, | Diplococcus intracellularis, | Tubercle bacilli. |
| Kernig's sign, | More likely and early owing to spinal involvement, | Late if at all. |
| General hyperæsthesia of skin,, | Prominent, | Not prominent. |
| Cranial nerve palsies, | In protracted cases, | More commonly has palsies of ocular and peripheral muscles, hemiplegia and aphasia. Tuberculosis of other organs. |
| Optic neuritis, | Not uncommon after four or five days, | Occurs late if at all. |
| Pulse ratio, | To temperature often less than normal, | |
| | Deafness, | Grinding of teeth. |
| | | Hydrocephalic cry. |
| | | Tubercles in choroid as late symptoms. |

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## CONVULSIVE TIC.

According to H. T. PATRICK of Chicago (*Journal A. M. A.*, February 11), convulsive tic may be said to be a habit spasm, a sort of motor expression of an imperative impulse. It may develop from some peculiar motion incident to the patient's occupation, but its original cause is generally sensory—some uncomfortable sensation which an attempt is made

to relieve by a movement which finally becomes habitual. It does not affect voluntary movements, is diminished by quiet, rest or mental diversion and is aggravated by self-consciousness, observation, excitement, etc. The prognosis varies. In children, it is ordinarily good, but in adults it is often rebellious. The patients are generally nervous and unstable and, in cases of children, unwise parents and rearing are often responsible. With them the habit may be broken by judicious diversion or correction. With adults the treatment is apt to be unsatisfactory, but Patrick thinks the soporific treatment, keeping the patient asleep for two or three weeks at a time, using hypnotics judiciously with frequent changes of the drug, followed by the educational exercises of Brissaud, will be found most effective in the spasmodic torticollis of the adult.

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## ADRENALIN CHLORIDE IN HEMORRHAGE COMPLICATING TYPHOID FEVER.

M. CLAYTON THRUSH, M. D. (*Therapeutic Gazette*, December, 1904), in discussing adrenalin chloride as a remedy for hemorrhage occurring in typhoid fever, says:

(1) Adrenalin chloride is the most powerful hemostatic known and is especially valuable in hemorrhage complicating typhoid fever.

(2) The best results are obtained from this remedy only when the typhoid fever is treated in all respects in the most approved manner.

(3) The remedy depends for its value on the property it possesses of being a vascular stimulant.

(4) The remedy is best administered hypodermically.

(5) Adrenalin administered by mouth has an effect similar to that obtained when the remedy is used hypodermically, but the action is slower.

(6) Adrenalin is indicated in all forms of hemorrhage.

(7) In hemorrhage complicating typhoid fever twenty minim doses of a one to one thousand preparation (the form in which it is usually sold) should be given hypodermically every three hours until the hemorrhage has been controlled, or until twelve hours of such treatment has passed, when the remedy should be continued by mouth in ten minim doses for a period of twenty-four hours.

The usual course of applying ice to the abdomen, of elevating the foot of the bed, and of avoiding the use of fluids is recommended as a valuable adjunct to the treatment described above.

Doctor Thrush describes ten cases of typhoid fever in which hemorrhage occurred and to which treatment with adrenalin chloride was applied. In all these cases the hemorrhage was controlled and in all a final recovery of health was reached.—*The Physician and Surgeon.*

## HYSTERICAL MOVEMENTS.

H. T. PERSHING, Denver (*Journal A. M. A.*, February 11), gives the diagnostic points of hysterical movements as compared with chorea and convulsive tic. One characteristic is that they are always movements which can be produced voluntarily, though this also may be the case with convulsions from organic disease. The more regular the movement the greater the probability that it is hysterical, but the possibility of hysteria complicating other conditions must not be forgotten. The most characteristic movement is a rhythmic oscillation involving one part, and next are certain highly co-ordinated movements, such as jumping or dancing, with or without impairment of consciousness. Chorea may simulate hysteria and be due to similar emotional causes and the diagnosis may be difficult. Hysterical movements are more likely to be regular and grouped in distinct paroxysms and to have more of the staccato movement, but most of the rules for distinguishing these diseases require qualification. Hysterical movements of a limb may simulate Jacksonian epilepsy, but there is no rise of temperature, no paralysis nor mental deterioration. Prognosis and treatment must be guided by general principles. A cure is always possible, though the condition may be obstinate. Moral treatment is imperative. If the patient's mental processes can not be happily directed, everything else will be useless. If they are so directed the rest will be easy.

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# SURGERY.

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

## THE MANAGEMENT OF HERNIA IN INFANCY AND CHILDHOOD, WITH RESULTS OF OPERATIVE TREATMENT.

W. B. Coley (*Jour Amer. Med. Ass.*, Jan. 14, 1905), reviews the results of a series of herniæ occurring in infancy and childhood. He believes that no case should be submitted to operaton before the fourth year of age unless (1) there is a history of strangulation; (2) the hernia becomes irreducible; (3) there is gradual increase in the size of the hernia; (4) the hernia is femoral; (5) there is present a reducible hydrocele.

Patients under four years of age show a 66 2-3 per cent cure from mechanical (truss) treatment, the "opposite side," or "cross body," truss being preferred, and it must be worn night and day.

Coley always performs the Bassini operation, transplanting the cord and putting one suture above it. He reports 230 cases so operated on, without a recurrence.

If the hernia is complicated by undescended testicle, the operation should be performed before the fourth year. Owing to the shortness of the cord, it should not be transplanted in these cases.

Coley reports 775 cases of inguinal herniæ in children, operated on by Bassini's method (i e. with transplantation of the cord). In this series there were three recurrences, fifteen cases were operated on without transplanting the cord, and in this series there were five recurrences.

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## CAUSE OF DEATH IN OPERATED CASES OF INTESTINAL PERFORATION OCCURRING IN TYPHOID FEVER.

Anderson (*American Medicine*, Dec. 31, 1904), reports his experience in twenty-one cases of laparotomy in perforation. In three the condition resembled perforation, as typhoid appendicitis, mesenteric gland infection, and obstruction from mass of round worms in the ileum; in which paralytic ileus occurred. In twelve cases the patients were operated upon under thirty-six hours from the onset of first symptoms with six recoveries. Three of these were the foregoing three cases. In the remaining nine cases the patients were operated upon from two to four days after perforation and all died. In nine cases there was special treatment by draining or irrigating the lumen of the bowel. Four of these patients recovered. In the others, the post-operative symptoms were less severe. Anderson believes that there is a danger of sepsis from the contents of the paralytic bowel, as well as from the peritonitis; that shock as a cause of death is usually rare during typhoid fever; that anaesthesia and operations are well borne, if performed carefully; that the peritoneum acquires some immunity to infection during typhoid fever, but that paralytic ileus is readily produced in the inflamed and ulcerated intestine, and the natural protective function of the mucous membrane is destroyed and serious toxaemia occurs early; that while perfecting our technics to cure the peritonitis, we must remember that the contents of the paralyzed bowel may become a cause of death, and must be removed.

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## A QUESTION IN GALLBLADDER SURGERY.—CHOLECYSTOTOMY OR CHOLECYSTECTOMY?

H. F. Brownlee (*Medical Record*, Dec. 10, 1904), says that in gallbladder surgery as in various other branches, the initial impulse has had a tendency to carry operators too far and that a somewhat more conserva-

tive attitude should be adopted in dealing with the gallbladder. The custom advocated by many surgeons of removing the gallbladder in all cases when lesions exist in the organ, is supported by the claim that the operation *per se* is not dangerous, and that secondary operations involve more risk, while removal of the gallbladder provides greater surety against the reformation of stones and a greater degree of neatness and thoroughness of operation. The author is in accord with these views in dealing with cases in which the gallbladder is from any source atrophied or diseases beyond repair, but he believes that the viscus has a well-defined function which cannot with impunity be ignored and that it should not be sacrificed when repair is still possible. The gallbladder represents a safety valve for the liver, and in cases where the bile ducts become secondarily obstructed after a cholecystectomy the liver is directly acted upon by the retrograde pressure, and the interval during which surgical intervention may still prove effectual is greatly shortened. A case in point is quoted by the author in which a patient with an atrophied gallbladder quickly succumbed to a stone impacted in the ampulla of the common duct in spite of operative aid. Infection of the gallbladder a second time is an exception to the prevailing rule, as is also a second accumulation of stones, and the author believes that calculi will form more readily in a distended common duct when the gallbladder is absent, and that infection leading directly to the liver will have easier access to the organ already under unfavorable conditions in being obliged to store within itself its own production for variable lengths of time.

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## THE PRESENT ATTITUDE REGARDING THE TREATMENT OF PROSTATIC HYPERTROPHY.

M. W. Ware says that absolute retention that cannot be relieved by catheter, intravesical hemorrhage, coexisting calculus, and sepsis following long, badly performed catheterization, are all indications for surgical treatment of the prostate. When the patient shows only the first signs of prostatic enlargement, it is a question whether to condemn him to a long seige of catheter life and its pitfalls, or forthwith to subject him to the chances of an operation. In these cases the line must be drawn as to social conditions, and when these are of the highest order, the author advises carefully conducted catheterism by the physician, to be followed by operation on the slightest evidence of deterioration in the status of the patient. In the lower walks of life operation is always preferable. The perineal operation deserves the lead, as it spares the seminal vesicles, and it is a matter of necessity when there is suppurative inflammation of the

prostate or urethal disease. The suprapubic route is more advantageous in the presence of calculus, vesical hemorrhage, a large diverticulum, when the growth is largely vesical, or is beyond rectal reach owing to a narrow pelvic outlet, as well as in the very obese. Bottini's operation, permanent suprapubic drainage, and the catheter *à demeure* have their place, but vasectomy and ligation of the internal iliacs do not deserve recognition. Cystoscopy is an important preliminary, and the after-treatment often takes longer than the patient expected.—*Medical Record* December 31, 1904.

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## SERUM THERAPY OF TETANUS.

F. A. Suter (*Arch of Chir.* Bd. lxxv, Hft. 1), after carefully considering the cases reported in literature, of tetanus treated with antitetanic serum, reaches the following conclusion: If, owing to conditions present at the time of operation, tetanus is feared, the serum should be injected *before* the operation. If the patient has received an accidental wound which is suspicious, the serum should be injected as soon as possible. If the wound has healed *per primam,* then one injection is sufficient; whereas, if the wound suppurates the injections should be repeated.

The immunity which results from the injection lasts a varying time, according to the variety of serum used; but it never lasts longer than from two weeks and a half to three weeks. If the wound suppurates profusely two injections should be given the first week, one the second week, and then one every two weeks.

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## A REVIEW OF SOME RECENT PAPERS ON THE SURGICAL TREATMENT OF PROSTATIC HYPERTROPHY.

E. G. Ballenger gives the history of the development of prostatic surgery and the indications for, and technique of, the different modes of operative treatment in vogue at present. Suprapubic drainage of the bladder is advised in those cases too weak to withstand an operation; if improvement follows this procedure, then a radical operation is indicated. There are three radical methods that are without doubt the most valuable; suprapubic prostatectomy, perineal prostatectomy, and the Bottini operation, and each of these has a definite place in prostatic surgery. All patients should be operated on before the breakdown in catheter life, and the earlier the operation the fewer will be the complications encountered. The suprapubic route is indicated when there is a large intravesicular, mobile, adenomatous growth, with general health and bladder and kidneys

in a satisfactory condition. The perineal operation is more desirable for small, dense, fibrous prostates firmly attached, and those where the growth is largely around the urethra or back toward the rectum. The Bottini is indicated in those cases where prostatectomy is refused, and in selected cases, where the general health and kidneys counterindicate more radical measures. Of course, it is never to be used for a large, rapidly growing hypertrophy. Marked improvement results in the large majority of cases where the operation has been properly selected and carefully performed.—*Medical Record*, February 4, 1905.

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## PROSTATECTOMY.

In the weakest and most run-down cases M. B. TINKER, Ithaca, N. Y., (*Journal A. M. A.*, February 11), has employed permanent suprapubic drainage. This is rapidly performed under eucain, and he thinks it is the safest of all procedures. Except in absolutely desperate cases, he believes prostatectomy under local anesthesia is safe as compared with the operation under general anesthesia. The use of adrenalin with the ordinary local anesthesia greatly prolongs and adds to its efficiency, prevents the pain and congestion following, and renders the operation almost bloodless. The knowledge of the nervous anatomy of the parts is, of course, absolutely essential, and the course of the pudic nerve and the long pudendal nerve close to the base of the tuberosity of the ischium are important. He favors the use of Young's tractor, and recommends allowing sufficient time for the anesthetic to act before making the incision. With sensitive or nervous patients he finds it often better to use a little nitrous oxid gas or primary ether anesthesia, as the infiltrating solution can not reach the parts involved in the deeper enucleation. These parts however, are supplied by the hypogastric plexus of the sympathic and the discomfort is not necessarily great. He reports a case in which he thinks this method of operation was directly life saving.

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## SOME PAINFUL AFFECTIONS OF THE FEET. DIAGNOSIS AND TREATMENT.

C. Ogilvy discusses the commoner causes of foot pain, with the appropriate treatment. The diagnosis of "rheumatism of the feet" is often made, but is usually incorrect, the symptoms in most cases being due to some deformity, such as eversion, or flat foot. In eversion, or what is

commonly called "weak ankle," the foot is everted, the internal malleolus projects very prominently, the toes point outwards, and the line of strain falls to the inner side of the foot, throwing excessive weight on the inner half of the longitudinal arch. This leads to loss of elasticity of the arch, the foot breaks down and flat foot results. Flat foot in its first stages is not diagnosed correctly in 50 per cent. of the cases, yet an early diagnosis is of the greatest importance, for it is a difficult matter to transform an everted painful foot with a broken-down arch into one which is capable of performing all its functions without pain or discomfort. The treatment may require the use of the Thomas heel, the Whitman plate, the plaster bandage, operation, exercise and massage, singly or in combination according to the nature of the case. Metatarsophalangeal pain is due to weakness of the anterior arch and is treated by the application of a felt pad and adhesive plaster. Bursitis of the heel is less frequently met with and is treated by hollowing out the heel of the shoe or by dissecting out the bursa. The subject of proper footwear is also considered and the essential points of a well fitting shoe are enumerated.—*Medical Record,* January 21, 1905.

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## STERILE WATER ANESTHESIA IN THE TREATMENT OF HEMORRHOIDS.

In introducing the use of sterile water anesthesia it is with the single purpose of describing briefly the method and results as obtained by me in the treatment of hemorrhoids only, disregarding its application to a broad field of minor surgical operations.

Local anesthesia by a subcutaneous injection of water has been used for the relief of nonoperative pain since 1868; later cocaine, morphine and other drugs were introduced into the nerve trunk or subcutaneously with varying results for the relief of neuralgia.

With a hypodermic syringe the sterilized water is injected into the hemorrhoid after the patient has pushed the tumor into view, which may be facilitated by the previous injection of a glycerine and water solution. The injection into the hemorrhoid is made slowly, steadily and to such a degree as to turn the tissue white. This whitened area represents the field of complete anesthesia. The whitened tumor or tissue is seized with a forceps and held by an assistant. The base is snipped around with a scissors to hold the ligature, which should be small, strong and tightly tied when the portion of hemorrhoid external to it is cut off. Up to this time the patient suffers from a feeling of fullness or when the injection has been rapidly made from a distention pain. Its removal relieves existing discomfort and there is little, if any post-operative pain.

1. Sufficient anesthesia to operate upon one, two or three hemorrhoids at one time with a slight degree of pain.

2. The hemorrhoid is rolled out in a tumor-like mass, which is quickly handled.

3. One needs only a hypodermic needle and water, preferably warm.

4. The anesthesia instantaneously follows the injection.

5. No dangerous complications have followed the employment of simple sterile water.

6. That it is apparent from results that injections of carbolic acid are completely superseded by this safe and simple procedure, which can be carried out in the office, and in a shorter time, and cause much less suffering to the patient. *Dr. Martin L. Badken, in Brooklyn Med. Jour.*

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## SYPHILIS IN ITS RELATION TO MARRIAGE.

Dr. M. Shellenberg takes Fournier's five conditions as his text in considering this subject in the *Med. Times,* July, 1904. (1) Absence of existing specific accidents. (2) Advanced age of the diathesis. (3) A certain period of absolute immunity consecutive to the last specific manifestations. (4) Non-threatening character of the disease. (5) Sufficient specific treatment.

The first condition is so obvious that he dismisses it in a few words, regretting that, especially in Europe, men may be found who, while thoroughly appreciating the dangers, take the risk, because they have their own interests to advance. Fortunately, says Dr. Shellenberg, American men as a class are not so depraved.

The second condition—the advanced age of the diathesis—the younger the syphilis the greater the danger, and the converse of this is equally true.

Time alone will greatly modify, if not entirely cure, the disease, so far as its power of transmissibility is concerned.

In connection with this, Dr. S. discusses Hutchinson's abortive treatment, and says: He (Mr. H.) rather intimates that any "suspicious sore"—any sore having an appearance suggestive of specific infection, yet not having fully developed specific characteristics—should be treated by the abortive plan, with discretion. (This is not my custom. I am in entire agreement with those who prefer to wait till the diagnosis is certain, and who think that we are not justified in placing a patient under a course of specific treatment for a sore of a doubtful nature.—A. S.). Fournier gives three or four years as the *minimum* time which should elapse before a patient should marry.

In discussing the third condition, Dr. S. mentions no period of absolute immunity. (In my judgment, three years from acquiring the disease is the minimum time; the first two should be years of thorough treatment, and the third and last year must be entirely free from both symptoms and treatment.—A. S.)

The fourth condition, Dr. S. says, "initial benignity," does not constitute a pledge of security for marriage if it be *not* joined with additional guarantees, especially that of a sufficient treatment. Condition 5: Dr. S. does not go into the question of marriage of a patient who has acquired the disease after the age of forty. Patients at this period of life are much less amenable to treatment, and one should be, perhaps, more chary of tolerating, as Dr. S. puts it, marriage.—*Med. Times and Hosp. Gazette.*

## TREATMENT OF PRURITUS ANI.

An important paper on this subject was read by Morris at the British Medical Association meeting. He divides the treatment into general and local. All organic and constitutional disturbances must be appropriately dealt with while local treatment is being carried out. Calomel at bedtime, followed by a saline in the morning, is of great service. Locally, scrupulous cleanliness must be enjoined. Cocaine may be used in the form of half-grain suppositories, or as a 4 per cent. ointment. Carbolic acid often acts well, and may be prescribed as a lotion, or as a liniment in combination with olive oil. Carbolic acid, combined with a mercurial ointment, may be tried. Menthol and tar ointments are often of cosiderable value; while amongst the sedative applications he mentions ichthyol, chloral, borax, benzoin, and tincture of iodine.

He considers that mercury is the best antiseptic to use in such cases, and he prefers the oleate, in combination with the oleate of morphine. The local application of calomel in the form of a powder often has a marvellous effect, as it has a remarkable power of rapidly allaying the itching. At the same time he advises the use of small doses of sulphate of magnesia.—*Med. Times and Hosp. Gazette.*

## SUDDEN DEATH, ESPECIALLY FROM EMBOLISM FOLLOWING SURGICAL INTERVENTION.

Byron Robinson subjects the causes of sudden death to an exhaustive analysis and then describes nineteen illustrative cases. A large proportion of the instances of sudden death, are due to embolism, usually through invasion of a vegetative center in the floor of the fourth ventricle,

or through asphxia, caused by embolic lodgment in the pulmonary artery. The operations most often followed by embolism, are those for appendicitis, hemorrhoids, hernia and pelvic diseases, and on the kidney, prostate and bladder. Prophylaxis includes placing the patient in as perfect a condition of physiological and anatomical rest as possible, several days before the operation, and by a complete evacuation (a dozen movements), of the intestinal tract, and flushing of the kidney by giving eight ounces of half decinormal salt solution, every two hours, six times a day. With these two systems drained to a maximum, the patient can be placed in the most perfect state of physiological and anatomical rest, which is the safest condition for any surgical intervention, and is a prophylactic against embolism. Such a state withstands to the highest degree the trauma of anesthesia, shock, peritonitis, infectious invasions, nephritis, pneumonia, and embolus.—*Medical Record*, January 14, 1905.

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## GYNAECOLOGY.

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

### THE NECESSITY FOR EARLY DIAGNOSIS AND EXTIRPATION OF MAMMARY CANCER.

The January number of the *American Journal of Surgery and Gynecology* contains an exhaustive article on the above subject written by Dr. W. L. Rodman, of Philadelphia, and read before the British Medical Association. At the conclusion of the article he sums up as follows:—

1. Cancer is not only increasing in frequency, but in doing so is breaking down barriers hitherto recognized. It occurs more frequently than formerly in young subjects, and has become common in races at one time immune.

2. When affecting young subjects the prognosis is distinctly less favorable, as the lymphatics are both numerous and patent, whereas in the aged many lymph vessels atrophy.

3. An early diagnosis should be made, and no time lost in waiting for an operation, as metastases to the axillary glands and internal organs occur early, often before they are suspected. In 9 per cent. of all cases it is impossible to make a clinical diagnosis.

4. When in doubt as to malignancy, a complete operation should be arranged for; but before removing the breast an exploratory incision should be made into the growth, and a piece from near its centre submitted to a competent pathologist, who, as a rule, will give an accurate report in ten minutes. If malignant, a complete operation should be done immediately.

In women past forty the chances in favor of malignancy are as 13 to 1, and should, therefore, be assumed.

5. Carcinomata of the sternal hemisphere are less common than similar growths in the axillary half of the gland, but are probably more frequent than they are thought to be. The prognosis is worse in them than in cancers of the axillary hemisphere.

6. Recurrences being usually of the skin, its removal cannot be too free. Skin grafting, or closure of the wound by plastic flaps—the preferable method—will frequently, if not usually, be necessary.

7. The pectoral muscles, major and minor, should always be removed, regardless of infection, so that all diseased tissues can be removed in one piece, and the axillary dissection both more thoroughly and safely made. Their loss neither increases the mortality, lengthens the convalescence, nor seriously impairs the subsequent usefulness of the arm.

8. The supraclavicular glands should be removed if palpably enlarged, or if the topmost axillary glands show microscopical involvement; otherwise, their removal is unnecessary.

9. Wounds of the axillary vessels have been infrequent since the muscles have been removed as a routine practice. When occurring in an aseptic operation they have always been recovered from. Moreover, the œdema following is inconstant and transitory, and never a troublesome symptom.

10. Drainage should always be made.

11. The three year limit of Volkmann is insufficient, and should be extended to at least five years. Recurrences may occur after ten or more years.

12. The operative mortality in 2,133 operations performed since 1893 by twenty-one American surgeons was less than 1 per cent. This seems almost incredible, when contrasted with the 15 to 25 per cent. mortality for incomplete operations on the breast in preantiseptic days.

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## SURGICAL TREATMENT OF FIBRO-MYOMA.

In the *Am. Jour. of Surg. and Gyn.*, February, Dr. J. M. Baldy, of Philadelphia, discusses this important subject. In 1853 the first operations for the removal of the uterus were performed by Burnham and Kimball. The first period in the history of the surgical treatment of these tumors was that when the uterus was sacrificed as a necessity, the second, when an effort was made to cause the disappearance of the tumor without the risk of removing it, and the third, in which we now are, namely, the effort to remove the tumor and save the ovaries, tubes and uterus.

The first period laid the foundation for the present state of the surgery of this subject; but the mortality was high, due to faulty technique and a lack of antiseptic precautions being carried out as at present. The second period was negative in its results. Medicines, the curette, electricity, ligating the vessels, and ovariotomy were tried, but with little success. At the present moment the two surgical procedures are hysterectomy and myomectomy. Hysterectomy may be performed by the abdominal or vaginal routes. When performed by the former route, it may be complete or incomplete; but when by the vaginal route, it must be a panhysterectomy.

The vessels are secured by ligature, the cautery, crushing, or forceps. The most reliable method is the ligature. Commonly the vaginal vault is allowed to remain open for drainage, but some close the vault at once. Amputation at the cervix is now performed by ligaturing the vessels, closing the peritoneum over the stump which is dropped into the pelvic cavity. Amputation at the cervical neck is the favored operation, because it is suitable for all cases, it is a short operation, it requires less manipulation, there is less traumatism, less risk of sepsis, and the vaginal vault is kept intact. On the other hand, no good can arise from the removal of the cervix. The relative advantages between the vaginal and the abdominal routes are therefore altogether in favor of the abdominal.

Myomectomy is only suitable for a few cases. The writer condemns it is a general operation for fibroids. Fibroid disease of the uterus is liable to be very general in the uterus and there may be many nodules. Myomectomy fails to remove all these, and recurrence is frequent. Hysterectomy is, therefore, the preferable operation. In choosing myomectomy one would consider the age of the patient, the desire or necessity for an heir.

The need for surgical interference is largely governed by pain, hæmorrhage, rapidity of growth, size, pressure symptoms, recurring attacks of peritonitis, mental condition, and expediency. As to the future of fibroids it may be said that there is no natural cure other than the menopause, that there is no medical cure, that the menopause will relieve some while others become worse, that the menopause may be greatly postponed, and that the large majority of these cases will require surgical interference.

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## THE USE AND ABUSE OF CURETTAGE OF THE UTERUS.

E. K. Browd says that the apparent simplicity and security of the operation has led to the frequent performance of curettage of the uterus in cases in which the procedure is not only of no service, but may even be directly contra-indicated. It is useful in cases of endometritis not as-

sociated with pelvic inflammations, exudates, or diseased adnexa, in subinvolution of the uterus or retained secundines, in endocervicitis as a prophylactic against carcinoma, in mole pregnancies and in all cases of endometritis of so-called hyperplastic nature. In postpartum infections there is room for much judgment, for, while saprophytic cases with retained membranes, etc., are benefited by curettage, the measure is distinctly contraindicated if the infection is of the septic type. Curettage should not be regarded as a routine treatment for sterility, for it may aggravate existing pathological conditions, while the danger of perforation is very great in curetting for syphilitic, tuberculous, sarcomatous or cancerous degeneration of the endometrium. It should never be performed without an anesthetic, owing to the danger of perforation due to sudden movements of the patient, or in dirty surroundings that cannot be rendered aseptic. A number of cases are cited in which disregard of these rules was followed by serious consequences.— *Medical Record*, January 28, 1905.

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## THE FETAL NATURE OF CHORIOEPITHELIOMA.

Of the correctness of that name instead of deciduoma malignum, there now seems to be no doubt. Its occurrence at the placental site offers but little difficulty in the way of explanation other than that pertaining to the cause of tumors in general; when found independent of the placenta, a new aspect is given to the question. Findley cites 20 such cases and adds a personal observation; he also refers to several reported instances of chorioepitheliomatous tissue in teratomas of the testicle. Djewitzki reports the occurrence of a tumor of this type in the wall of the urinary bladder of a virgin of 75. Regarding the origin of these, which may be called aberrant chorioepitheliomas, speculation is rife. Shattock, in a further application of his theory, ascribes their occurrence in the testicle to fertilization of ovums in that organ during fetal life. Findley considers them probably due to displacement, when the fetus is little more than a segmentation sphere, of polar bodies or blastomeres and their incorporation in structures, which later form the testicle or other organ containing the growth. Cuthbert Lockyer, in reporting a case, directs special attention to the association of chorioepitheliomas with excessive lutein production in the ovaries, a phase of the question which, as yet, has been disregarded in England. He is strongly inclined to accept Pick's view, that an excess of lutein cells acts upon the developing ovum, converting it into a mole, which is simple or malignant, as the circumstances determine. In three cases of mole, or chorioepithelioma, in which the

ovaries appeared normal or only slightly cystic, Lockyer found, on microscopic examination, the ovarian stroma infiltrated with lutein cells, although cysts were absent. This is important, as showing that naked-eye appearance of ovaries is not reliable in determining this point. This theory is at variance with those previously cited, but possibly possesses just as much right to recognition. Histologic study of the ovaries should be made in every case in which it is possible, with the object of determining the frequency of the association of the conditions named.—*American Medicine*, Feb. 11.

## UTERINE RETRODEVIATIONS.

Lucy Waite, Chicago, (*Journal A. M. A.*, February 11), discusses whether operations for these conditions are necessary; whether they are safe surgical procedures, and whether they have been sufficiently successful to warrant their advocacy in the future. She answers each question in the negative. In 1,000 cases taken from the records of her clinic, 39 per cent. were found with retro-deviation. In 15 per cent. of these there were no gynecologic symptoms. The remainder were recorded as complicated with definite pathologic conditions, tumors pyosalpinx, chronic disease of ovaries, myometritis, etc. She notes the effects of fixation on an organ, the interference with circulation, etc., and from all the data in her observation and from what she has found in the literature, she concludes that a normal uterus may lie in any position in the pelvis other pathologic complications. This answers her first question. As without causing symptoms, and that when these occur they are due to regards the safety of the operation of ventrofixation, she quotes from numerous authorities showing its effects on the progress of pregnancy and delivery, and the dangers of strangulation, ileus, etc. Vaginal fixation is almost as bad in its results as ventrosuspension, and the best that can be said of the methods of shortening the round ligaments is that they are not dangerous excepting by weakening the abdominal wall and increasing the risk of hernia. On the other hand, they are unsuccessful in a large percentage of cases and, in view of the answer to the first question, are unnecessary.

## DECIDUOMA MALIGNUM.

Deciduoma is undoubtedly a disease which is growing more frequent, or, at least, is more frequently diagnosed. It is astonishing that so grave a malady was overlooked until Sänger drew attention to it in 1898. The growth differs from all other neoplasms. The essential element is a large giant cell. This cell is imbedded in a kind of cellular tissue, which

resembles sarcoma. The presence of so much sarcoma-like substance has raised the question whether the disease is not essentially a sarcoma. Bland Sutton holds that it is a sarcoma arising in decidual tissue. From sarcoma, however, it is differentiated by being composed largely of epithelial cells. (I show here to-night a specimen of sarcoma of the uterus which, to the naked eye, at any rate, presents quite a different appearance from the uterus infected with deciduoma malignum). Roberts, in his work on "Gynæcological Pathology," says: "The synctial theory of the plasmoidal masses seems unnecessary, and the great majority of cases of so-called deciduoma malignum ought really to be classed as rapidly growing sarcomata; the connection of the growth with a preceding pregnancy is not proved in every case, nor its development from structures which can be definitely recognized as fœtal relics."

This appears to have been the view held by most English gynæcologists, until J. H. Teacher published his well-known paper on "Chorion Epithelioma" in 1903. Most of the German, French, and American writers agree with Teacher in believing that these new growths originate from fœtal relics. Teacher concludes his very able and exhaustive article on the subject by saying: "I think it is proved that (1) the so-called deciduoma malignum is a tumour arising in connection with a pregnancy, and originating from the epithelium of the chorionic villi (or its fore-runner the trophoblast), which is of fœtal ectoblastic origin. (2) These tumours form quite a characteristic group, clinically, pathologically, and developmentally, and that they should be classified neither as sarcoma, nor as carcinoma, but as a distinct group *sui generis*. (3) The most appropriate name, therefore, is chorion epithelioma (or chorio-epithelioma) malignum."

Deciduoma was formerly supposed to be due to the degeneration changes resulting from a mole pregnancy. Later investigations, however, have shown that the mole is not necessary in its development, although favoring its growth.—Dr. Hamilton in the *Australasian Med. Gazette*.

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## OBSTETRICS AND DISEASES OF CHILDREN.

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

### POWER OF THE LIVER TO DESTROY DIPHTHERIA TOXIN.

Sir Lauder Brunton and T. J. Bokenham, in experiments upon guinea pigs, rabbits and cats, found: 1. By the circulation of diphtheria toxin through the liver its lethal action is greatly diminished. This diminu-

tion occurs whether the toxin is mixed with blood or an indifferent fluid. 2. Bile from such livers has a slightly antitoxic action, as has also the expressed juice of the liver. 3. Nucleoproteids separated from the juice of these livers possess a marked antitoxic action. The experiments tend to show that the liver not only diminishes the lethal activity of diphtheria toxin, but also probably forms an antitoxin. This depends not upon the blood but upon the liver tissue itself. This is similar to the power exercised by the liver in lessening toxic action of peptones during digestion. The experiments are also believed to support the view that immunity, natural or acquired, is nothing more than the extension to the cells of tissue generally of the power constantly exercised during digestion by those of the intestine and liver.—*American Medicine,* Feb. 11.

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## THREE CASES OF EXCESSIVE FETAL DEVELOPMENT.

J. Rosenberg reports three cases which illustrate the difficulty of diagnosticating oversize of the fetus. If the pelvic diameters are normal, the condition is usually not discovered till labor has been prolonged, and attempts to deliver have proved futile. The time for Cæsarean section has then passed, and the mothers are best served by perforating the dead or moribund child. The only safe and reliable guides are the external and internal pelvic measurements, and if these measurements are normal or approximately so (with hardly any exception) cesarean section is not indicated. Patients with a prior history of abnormal fetal development should not be permitted to go to full term. If not seen until labor has begun, the case should be conducted with extreme care and conservatism. Membranes are preserved until interference has been decided upon, as nothir can be gained by rupturing the waters, but there is increased liability to infection, and version may be made impossible. Symphysiotomy is never indicated, as the slight increase in pelvic diameters is not in proportion to the dangers of the operation. Cesarean section is hardly more dangerous, requires less complicated after-treatment, and abdomen and uterus once opened there is no doubt about our ability to deliver the fetus. In one of the author's cases the fetus, which weighed nearly thirteen pounds, was delivered by version and lived. One other fetus which was unusually difficult to extract, and even after perforation and decapitation required eventration, weighed, minus blood and brains, fourteen pounds. The other fetus, delivered by version and perforation of the aftercoming head, weighed twelve and a half pounds.—*Medical Record,* January 7, 1905.

# LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville, Fellow of the British Laryngological, Rhinological and Otological Society.

## PRIMARY TUBERCULOSIS OF THE PHARYNGEAL TONSIL.

Barstow (Medical Record, Oct. 8) gives notes on a patient who had had cough, pains in the chest, sweats, and a large number of tubercle bacilli in the sputum. A well advanced lung lesion was expected, but on careful examination none was found. A mass of adenoids was present in the nasopharynx, which was removed by operation. The symptoms improved immediately and the bacilli almost entirely disappeared.

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## HEADACHE AND DISEASES OF THE NOSE AND THROAT.

Oscar Wilkinson has classified the diseases of the nose and nasopharynx that produce headache. The first of these is morbid conditions of the mucous membrane, under which heading is acute and chronic rhinitis and as subdivisions of acute rhinitis, simple, specific and neurotic. Headache is one of the most constant symptoms of acute rhinitis. In specific rhinitis, in its incipiency, these are the symptoms of acute simple rhinitis, but of decidedly more exaggerated form. There is more pain, more headache, and greater constitutional disturbances. This is especially true in the glandular gonorrheal and diphtheric types. The other specific rhinitis conditions, the tuberculous, and those of lupus, leprosy, and larvas may vary very much in their symptoms in different individuals. In some they are decidedly acute, while in others they are chronic. Headache is not so constant a symptom in chronic cases. In the acute forms, however, headache is almost always a prominent symptom, and may be due to two causes: (1) A local condition due to obstruction of the nasal canal from inflammatory changes; (2) a constitutional condition due to infection from bacteria present. Under the neurotic type of acute rhinitis are placed hay-fever, asthma, and hyperesthetic rhinitis. The author calls attention to two forms of headache in asthma. The first is rather acute, and often severe, due to pressure in the nasal canals from stenosis. The second form is a dull, languid headache, which occurs after a night spent in wrestling with an asthmatic attack, due probably to the character of the inhalation used, loss of sleep, or a night spent in a close room. Morbid conditions of the osteocartilaginous framework are fruitful sources of nasal headache. Under this heading we have deflected septum, thickening of septum, pressure of the septum, exostoses, synechia, and caries. Headache is almost as constant a symptom in sinus inflammations as is unilateral purulent discharge. Of the benign

growths of the nasopharynx which may cause headache are mentioned adenoids, polypi, syphiloma, enchondroma, papilloma, osteoma, and rhinoscleroma. The malignant growths of the nasopharynx which cause headache are carcinoma and sarcoma. *New York Medical Journal*, reviewed in American Medicine.

## NASAL TREATMENT OF ASTHMA.

Alexander Francis (*Journal Royal Army Medical Corps*, Nov. 1904) with an experience obtained from treating over 400 cases of various kinds of asthma, is responsible for the opinion that it is those asthmatics who present no gross nasal lesions and no subjective nasal symptoms that give the best hope of affording relief from intra-nasal treatment. Francis thinks these cases are due to reflex spasm of the bronchial tubes. The irritation may originate in the nose, as may be infered from (a) the intimate association between hay-fever and asthma; (b) the very common record of excessive sneezing at some period in the previous history of an asthmatic patient; (c) the not infrequent alteration between asthma and sneezing. Asthma is not due directly to any mechanical obstruction of the nasal passages and is not commonly caused by any gross nasal lesion. Some part of the nasal apparatus has a controlling influence on the respiratory centre; or there is in the nose, as it were, an agency through which the apparent impulses must pass.

## GROWTH OF BONE IN THE TONSIL.

W. W. Carter reports a case in which bone, and cartilage in process of transformation into bone, were found imbedded in the connective tissue of the tonsil. The author believes that in these cases the bone originates from the metaplastic changes in the connective tissue, and not from the branchial arch, for the following reasons: (1) At the time that the tonsil develops the branchial arch has disappeared. (2) If the bone came from the arch, it should be uniformly distributed through the organ, and not confined, as it usually is, to the connective tissue. (3) The natural sequence of development of osteomata is from connective tissue, through cartilage to bone. This process is clearly shown in the specimen taken from this case. (4) Analogy with other organs shows that cartilage and bone are frequently found in the connective tissue framework of such glands as the parotid, the mammary gland, and the testis, when these have been subject to chronic inflammation. But since bone does not develop in every tonsil that has been subject to proliferative connective tissue changes, when it does occur we must assume some local predisposing tendency to its formation.—*Medical Record*, February 4, 1905.

# CANADIAN MEDICAL LITERATURE

The Canadian Practitioner and Review, February.

## OCCIPITO-POSTERIOR LABORS.

Dr. K. C. McIlwraith, of Toronto, has an article on Occipito-Posterior Labors. He reports some cases and then gives the leading features of interest in such cases. The diagnosis is often difficult, but by careful palpation, the examination of the position of the fœtal heart sounds usually well out in the flank, or the detection of an ear which will enable the direction of the acciput to be located, a diagnosis may be made out. He cautions against trusting to the sutures. These labors are usually dry, either from early rupture of the members or a scanty amount of liquor amnii. Rotation should be performed. This was first attempted by the finger in the vagina. This is uncertain and only succeeds in a small percentage of the cases. Then the whole hand was introduced; but in this method one is not sure that the shoulders are rotated. Finally, the hand and arm are introduced far enough to rotate the shoulders. This plan is recommended. In R. O. P. the right hand pushes the posterior shoulder outwards and backwards; in L. O. P. the right hand pushes the anterior shoulder inwards and to the front. The pressure made with the forceps is such as is required to effect delivery. The os should be dilated thoroughly, and flexion maintained during rotation. The correction of the malposition should be made at the earliest possible moment.

## TREATMENT OF CONSUMPTIVES AT HOME.

Dr. Edward Playter, of Toronto, maintains that the pendulum is now coming back to rational methods, and, consequently, we hear a good deal about the home treatment of consumptives. He quotes articles to show that the aggregating of these cases in permanent hospitals is not a good plan from the standpoint of the patient or from that of infection. He refers to the fact that the death rate from this disease began to fall in Britain due to improved sanitary arrangements before the sanatorium wave came in. He states that years ago he had observed some advanced cases with emaciation recover under proper home treatment. He contends that the immediate cause of tuberculosis is an auto-intoxication in a pretubercular stage from deficiency of oxygen in the system from shallow breathing or breathing bad air. Oxygen is the only specific. It is necessary to teach the patient that he must breathe deeply in order to

get more oxygen. This practice of lung gymnastics does not tend to cause hæmorrhages. With care the lung expansion can be greatly increased. When the lungs are seriously impaired special efforts must be made to secure sufficient lung capacity to obtain the oxygen requisite for a cure. The ordinary breathing of the patient in the open air will not do. A strong protest is entered against the custom of stuffing the patient with nourishment. Not one mouthful more should be given than can be digested and made into blood. In addition to beef, eggs, milk, etc., praise is given to sanguis boum, a mixture of ox blood and Malaga wine. When the pulse is over 100 very little exercise should be permitted. The patient should then lie or sit in the sunshine. The skin may be rubbed at night with cod liver oil to which may be added creosote, and a morning bath given. Inunctions of sulphur or iodine compounds over the diseased lung are useful. The only remedy for the cough is cool, pure, or cold fresh air day and night. The cough may be relieved by inhaling menthol or camphor in eucalyptus oil, to which may be added ammonia or potash, or an astringent inhalation if the mucous is copious. He has had a special inhaler constructed by which the patient may constantly inhale the fresh air without too great exposure by means of open windows.

The Montreal Medical Journal January

## HEALTH RESORTS IN ARIZONA.

Wm. Vaughan gives a very good account of the climate of Arizona and the cost of living in the various towns and their respective advantages. He speaks more particularly with regard to tuberculosis. Phœnix has an altitude of 1,180 feet and contains about 12,000 people. There are a sanatorium, a hospital, hotels and boarding houses. The country around is fine and the roads are good. February has a mean temperature of 54 degrees, varying from 43 degrees to 75 degrees. From October to April the weather is delightfully sunny. The rain fall is about 7 inches. In 1903 there were 266 clear days, 60 partly cloudy, and 32 cloudy. From May to December it is very hot, and the thermometer may go above 100 degrees. There are frequent sand storms. Tucson is elevated 2,400 feet, has a temperature about 2 degrees lower than Phœnix. It has a population of 7,500, and has hotels and boarding houses. The roads around are good. The rainfall is 8½ inches. The means of entertainment for invalids are not good. Oracle is 4,500 above sea level. It is a rather rough place. The roads are fairly good, but the hotels poor. The patients find accommodation in tents. The mean temperature for the winter months in 46 degrees and for the summer months 79 degrees. The rainfall is about 16 inches, and the snowfall is 12 inches. There is a high degree of sunshine, about 85 per cent. of the days. Cas-

tle Creek hot springs is noted for its hot springs. The accommodation at the hotel which remains open from November to April. It is surrounded by hills and is free from sand storms. It is very dry and sunny. The horseback riding is excellent. Prescott is elevated 5,300 feet and contains 5,000 persons. It is a bright, well-built town, and has a hospital. The accommodation is scanty for invalids. A young Canadian, Dr. J. W. Flinn, has started a camp for the open air treatment of tuberculosis. The temperature for July and August is 95 degrees, and for January and February an average of 38 degrees. There is a maximum of sunshine, the rainfall is 16 inches, there are sharp thunderstorms, and about 18 inches of snow fall. It is considered superior to Denver or Colorado Springs. Flagstaff is 6,800 above sea level, but it has poor accommodation. The winter is severe and the altitude is too great for consumptives. The cost of living in all these places is high.

## PLACING PERINEAL SUTURES PRIOR TO LACERATION.

Dr. A. Lapthorne Smith, Montreal, calls attention to the advantages of placing sutures in the perineum when it appears that laceration is inevitable. He recommends three. His method is to sterilize the parts, anaesthetize the patient, and place the anterior suture first. The anterior suture is entered at the base of the lesser lip. The second one an inch farther back and the third still farther towards the anus. The thumb is placed in the rectum as a guide and the finger in the vagina. The ends of the sutures are held by a haemostat. The advantages are that there is perfect apposition of the parts and that the muscles are secured. This avoids what too often happens of only securing a skin perineum. Once in a while the sutures may not be required, but this is a small matter. The sutures recommended are silk worm gut, and should be inserted with a curved perineal needle which is inserted on one side, made to travel across the vagina and out on the other side. The needle is then threaded and withdrawn. No doubt this original method of Dr. Smith will prove of much value.

## DIAGNOSIS AND TREATMENT OF METRORRHAGIA.

Dr. F. Monod of Paris, read at the Montreal Medical Society a paper on this subject. He drew attention to the fact that the uterus is an organ that for many years bleeds regularly. He set aside menstruation and bleeding from the gravid uterus. Haemorrhage may be caused by fibroma, cancer, or a polypus; or again from some condition of the uterus

not marked by any acute or chronic affection, or from acute or chronic metritis, from a miscarriage or confinement. There may be a metrorrhagia at the menopause, or connected with lesions of the adnexa, or from an angioma of the mucosa. In some cases metrorrhagia is caused by an infection metritis. There is an essential metrorrhagia from general disturbance or anæmia. At the menopause the bleeding may be caused by some senile change in the uterine tissue or by vascular changes due to the cessation of the menses. In diseases of the tubes and ovaries, as cystic tumors or inflammations, there may be excessive flow from the uterus. Following the expulsion of the ovum there may be a chronic metritis, a portion of retained placenta, or a fungous condition. In the treatment of these cases resort may be had to hot douches. Rest in bed with feet elevated, and vaginal packing. A two per cent. solution of gelatine may be injected into the uterine cavity. This is useful in uterine atony, fibroma or fungoids. Normal saline may be required subcutaneously. Ergot and digitalis cannot be depended upon. Ligature of the uterine arteries should not be performed, as it is better to curette or remove the uterus. In some instances the mucosa may be modified sufficiently by the cautery or by electricity. In some cases the disease in the ovaries and tubes may require their removal. Haemorrhage in old women may call for hysterectomy. The uterine caustics may be tried, such as creosote, camphor, napthol, tincture of iodine, silver nitrate, and chloride of zinc. The lecturer spoke well of the use of electricity as a uterine stimulant, the galvanic to be preferred. The positive electrode being placed in the uterine cavity and the negative over the abdomen. Vaginal hysterectomy must be resorted to for angiomatous metritis, deciduoma malignum and in metrorrhagia in old women.

## INTESTINAL OBSTRUCTION AFTER LABOR FROM A HAEMORRHAGIC CYST.

Dr. T. P. Shaw, Kingston, reports a case where there was acute obstruction of the bowels from a haemorrhagic cyst. On the fourth day after the confinement, she was seized with violent pain in the lower half of the left side and the left iliac fossa. Very tender on palpation. On fifth day, there were tympanites and elevated temperature. In response to the use of enemata and the rectal tube the bowels did not move nor was there any passage of flatus. The temperature rose to 102 degrees. The patient was removed to the Kingston Hospital and operated upon. Here temperature was 102 degrees, pulse 130, and respirations were 22. A tumor could be made out in the median line. On opening the abdomen a dark blue tumor was seen, very tense and the size of an adult head, which was found to be a large, unilocular blood cyst of the

left ovary. The pedicle was twisted. The tumor was delivered through the opening and the pedicle tied with a chain of ligatures of heavy silk. The large vessels were secured by catgut. The obstruction was relieved and the patient recovered.

## QUININE AMAUROSIS.

Dr. G. H. Mathewson, Montreal, gives an account of a patient who suffered from amaurosis caused by about 180 grains of quinine taken during a period of eight days by a patient who was ill with puerperal sepsis. The pupils were widely dilated, the tension was normal, vision-P.L., the optic disc was extremely pale with dull surface, and some haziness of the fundus. The arteries were bloodless and the veins paler than normal. She improved up to 6-36, but the field was very constricted. He refers to some of the recorded cases and discusses the literature of the subject from the first cases reported in 1841. The article is a very important contribution to the subject.

## THE PRIVILEGES OF MEDICINE.

John McCrae, M.D., L.R.C.P., Montreal, delivered the opening address on the above topic at the Medical Faculty, University of Vermont. In his address he referred to the brotherhood of the profession. He then pointed out that we were apt now to drift away into theory and not acquire such an intimate knowledge of the patient as our forefathers had to acquire. The advance in our knowledge of tropical diseases was referred to. He urged that, while enthusiastic over one's own college, he should be liberal minded towards others, and spoke of the great advantages coming to one from travel, and visiting other seats of learning. Emphasis was laid upon the fact that college days were full of good things, and it behooved students to spend their time well and not upon things that are "not worth the candle." It was well for every student to have high ideals. These may not be all realized, nevertheless, good comes from them. They stimulate towards great things. When college days are over and practice is entered upon many problems come up for study; and none are old problems, as every case has the disease and the patient as two elements in the equation—the latter element ever varying. It is by this searching for the solution of problems and the discovery of truth that the best in the profession can be attained. The monetary object should be secondary, and if the only object must lead to disappointment. One of the great features of the profession is the opportunities for doing good. Some of these may be paid in money, some in gratitude, and some in neither. He quoted the legend: "What I spent I had; what I saved I lost; what I gave I have."

## GUNSHOT INJURY AND LARGE GRANULATING SURFACE.

Arthur Kendall, M. D., Cloverdale, B.C., reports a case of injury by a gunshot to the anterior and inner aspect of the right thigh. The skin, subcutaneous tissue and adductor muscles over an area of 14 inches were carried away. The patient was sent to the Royal Columbian Hospital, New Westminster. The wounds had assumed a greenish-black hue. It was necessary to remove both testicles, four inches of the speranatic cords, and the entire scrotum. The wound in the thigh was treated with wet boric acid compresses. The patient made a good recovery. At the end of four weeks the granulation tissue was dissected away down to the muscle. The healthy skin was raised to a distance of two or three inches from the wound. This permitted the wound to be covered with integument without too much tension. Six incisions were made through the skin for drainage. Gauze drains were introduced. In one week the sutures were removed.

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The Maritime Medical News, January.

## ELECTRO-THERAPY.

This is the title of the paper by Dr. G. G. Corbet of St. John, N. B. He refers to some facts in the history of the subject, and gives a succinct definition of the terms most commonly in use. He then mentions the kinds of electricity, as the animal, thermal, frictional or static, chemical and induced. Mention is made of the important place occupied by the x-rays, and explained the tubes of high frequency as those where the vacuum is rendered very complete, and those of low frequency as examples where the vacuum is not very complete. He calls attention to the fact that matter exists in the solid, liquid, gaseous, and a fourth the radiant form. Some remarks are made on the diagnostic value of the x-rays, and list of diseases given for which the various kinds of electricity are most useful.

## RECURRENT DISPLACEMENT OF THE PATELLA.

Dr. R. A. H. MacKeen, of Glace Bay, reports a case where the patella constantly slipped outwards. This condition is due to an unduly long patellar tendon, or to a condition of genu valgum. His method of treatment was the same as that described by Dr. Goldthwait of Boston. A long incision of at least four inches is made over the patellar tendon from the tibial tubercle upwards. The tendon is split longitudinally and the outer half cut off at the tibia. This portion is then passed under the other undivided half. The cut end is then securely fastened to the periosteum of the tibia and the insertion of the sartorius muscle. This gives the patella an inward traction and prevents it from slipping over the outer condyle. The treatment is both simple and effective.

## PIONEERS OF MEDICINE IN NOVA SCOTIA.

This is the subject of Dr. D. A. Campbell's interesting article. In a brief biographical manner he gives a short sketch of many of the early practitioners of the Province. From a historical point of view the paper is an interesting one.

## ADDRESS OF WELCOME.

Mr. Clark Bell's remarks, at the opening of the American International Congress on Tuberculosis, are brief but earnest. Mr. Clark Bell has done good work in the fight against this disease.

## THE SURGICAL TREATMENT OF PUERPERAL SEPSIS.

Dr. H. E. Kendall, of Sydney, C. B., gives a few good points in his paper. If the symptoms of sepsis are mild usually a vaginal or intra-uterine douche will correct the trouble. These may have to be repeated. When the vagina is much bruised or lacerated he advises a formalin douche every two hours. On no account should tbe curette be used until a late stage of sepsis. The uterus can be cleaned out with finger, the patient being anaesthetised. The operator pressing down the fundus with the hand. When there is good reasons to suspect peritonitis, the writer advises opening up Douglas' cul-de-sac and introducing a good sized gauze drainage. This should be removed in about five days and another put in position. When a septic endometritis has lasted intermittently for three or four weeks and the uterus has become fairly contracted, the sharp curette is of much use.

## CONSUMPTION.

This is the short address of Dr. N. K. Foster of California, at the Congress on tuberculosis in St. Louis. He speaks strongly against the habit of advanced cases going to distant places to die, as they would be much better at home. He then refers to the encouraging fact that the death rate from tuberculosis is declining because of the attention given to prevention and a better state of sanitation. An appeal is made for laws to prevent polluting sidewalks, workshops, cars, etc.

## ADDRESS ON CONSUMPTION.

When Dr. G. E. DeWitt of Wolfville, N.S. was in St. Louis at the Anti-tuberculosis congress he gave a short address in which he referred to the need for preventive measures, and the fact that Nova Scotia, was taking action. Already a sanitorium, costing $25,000 has been erected. The Provincial Government was circulating literature on the subject of tuberculosis.

# QUEBEC MEDICAL NEWS

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

The action of Deputy High Constable Lambert in forcibly entering the wards of the Montreal Maternity Hospital has aroused the indignation of the medical men of the city. The Governors of the institution are determined not to let the matter rest until just punishment has been administered to the offender. At a meeting of the Board the following resolution was passed :—"That Mr. Holt, K.C., the hospital's solicitor, be instructed to draw up a complaint to the Attorney-General asking for the dismissal of Deputy High Constable George Lambert, and Special Constable George Pratt, and asking further for some assurance from the Government that such unauthorized and outrageous action shall not be repeated."

It appears that a young man was arrested some time ago on a charge of seduction at the instance of the parents of a young woman. The girl could not be found, and a warrant was issued for her as a material witness. It was rumored that she was in the Montreal Maternity Hospital, and the Deputy High Constable went to look for her. The circumstances of his visit to the institution are told in affidavits sworn before Mr. Lomax, Commissioner of the Supreme Court, by Miss F. S. Gage, Lady Superintendent of the Hospital; Dr. D. S. Evans and Dr. J. C. Cameron.

Miss Gage states that Lambert went to the Hospital accompanied by a special constable named George Pratt, about four o'clock on the afternoon of January 24th. They stated that they had a search warrant for a girl named Lucia Beaupre and exhibited a paper, but in such a manner that it was impossible for her to read it. Miss Gage informed the men that the young woman was not in the house, but they insisted on searching the premises. They refused even to wait until the patients had been warned of their approach, but insisted upon forcing their way into the wards at once. The men went through every room in the house, including the nurses' quarters and Miss Gage's private rooms, keeping their hats and coats on, using abusive language and otherwise behaving in a very ungentlemanly manner. They forced themselves into wards in which were patients who were not in a condition to see any but medical men, going up to the beds, peering into the faces of the patients and looking under the beds. They did the same thing in the nurses' quarters where night nurses were asleep.

The case against the young man came up before Judge Desnoyers, and Dr. Evans who was called as a witness, denounced Lambert in scathing terms, and stated that by his actions he had endangered the lives of a number of inmates of the hospital. He had forced his way into a private ward, in charge of Dr. Evans, in which lay a patient whose confinement had taken place but a few hours before. Lambert's reply was that he had simply done his duty, but admittd that he had no search warrant.

In spite of telegrams to the Attorney-General, Lambert, who was on his way with a prisoner to Switzerland, could not be stopped because he had a special warrant from Ottawa. Arrest was useless because bail would have been at once forthcoming. This, however, will make little difference eventually, as the Governors of the Hospital intend to push the matter to the end. The daily papers and medical journals of the city are strong in the denunciation of the Deputy High Constable's action.

A unique map has been prepared by the League for the Prevention of Tuberculosis and has been hung in its offices to demonstrate the need of further work in the city. It is an ordinary street map of the City of Montreal, bristling with black-headed pins, each pin representing the scene of death of a case of tuberculosis. Since June, 1903, when the league was first organized, about 1,000 deaths have occurred from the disease. The league has possessed itself of information concerning all of these, dealt with all in a greater or less degree, and in 338 cases has supplied not only medical care but material relief.

A year ago the city appointed Mr. Mireault to the staff of the Civic Board of Health, with the duties of Inspector for the League, and he reports that in the past year he has made 2,666 visits. At each house he leaves instructive literature, supplied by the league, and in many cases gives special instructions concerning the nature and treatment of the disease. He states that a great deal of distress is met with in his rounds and that dirty and badly kept houses are one of the worst features with which he has to contend. He has performed 704 disinfections after death, 9,400 sanitary cuspidors have been distributed to patients, and wall-charts on tuberculosis have been placed in 365 institutions, schools, colleges, convents, stations and saloons. The Provincial Health authorities have not been backward in taking steps to see that the law is enforced. Tuberculosis, when it has reached the state of expectoration, is among the diseases of which the health authorities must be notified. Disinfection after death is obligatory, and efforts are now being made to have ordinances against spitting in public places. An important petition has been brought before the Civic Hygiene Committee from the Council of the Canadian Association for the Prevention of Consumption. The

petition prays the city to lend its aid to secure co-operation from the Government, in order that a sanitorium for consumptives may be erected in each Province of the Dominion. Among other facts given in the petition are the following :—"That the death rate of the Dominion from consumption is 8,000 per year."

"That the Province of Quebec suffers to the extent of 2,994 a year from the disease."

"That the total number of invalids from this cause in the Dominion must number 40,000."

"That in Montreal there are 4,000 invalids, of whom 799 die every year."

"That the most effective way to fight tuberculosis is the establishment of at least one sanitarium in each of the Provinces."

In conclusion the petition says :—

"Therefore we would pray the City of Montreal to co-operate with the various Provinces in the efforts that are being made to have such sanitariums erected and maintained."

The Royal Victoria Hospital has passed through a fiery ordeal and has not been found wanting. The blaze starting in the kitchen, which is situated on the top story of the central or administration building, was confined to this portion of the hospital. The greater part of the damage was due to smoke and water, the ceilings being stripped off from many of the rooms. The servants' quarters suffered most severely and the occupants lot most of their personal property. The nurses and doctors, however, were more fortunate, and the greater part of their belongings were uninjured. Ample opportunity was given for a demonstration of the admirable discipline of the institution. Streams from the hospital hose were directed upon the fire a few minutes after it broke out, and the copper-sheathed fire-proof doors in the passage ways to the sections containing the wards were at once closed, thus entirely shutting off the patients from the burning building.

On the arrival of the fire brigade the doctors began to make their morning rounds and it was a sight not to be forgotten to see the firemen outside fighting the flames with the full strength of the fire brigade, while within the doctors, attended by the nurses, were going from bed to bed, the ward maids and orderlies were dusting and sweeping with no apparent disturbance of hospital routine. A few of the patients in the top story were taken down to the bottom floor as there was a chance of the flames leaping from one roof to another, none of the others were moved, although a long line of ambulances were drawn up ready at a moment's notice to begin the transfer to other hospitals.

By the time the fire was under control arrangements had been made with a city hotel to supply meals for the day but by next morning a temporary kitchen had been prepared and things went on as usual. Only one patient was refused admission on account of the fire and that simply because he arrived while the building was still burning, others who came during the day were received as usual. The governors of the hospital and the citizens of Montreal are to be congratulated upon having a staff which responded so nobly in the hour of peril. At a meeting of the board of governors it was decided to put in an independent supply of water for the institution, and the city council is to be asked to establish an up-to-date fire station in the upper part of the city, as some delay occurred before the brigade could get to work, on account of the situation of the hospital. The reconstruction of the damaged portion is already well advanced and owing to the generosity of Lord Strathcona and Lord Mount Stephen will be much finer than the original plan.

The following appointments were made to the staff of the hospital.

Associates in medicine—Drs. Fry, Cushing and McCrae.

Clinical assistants in medicine—Drs. Burnett and McAuley.

Clinical assistants in neurology—Drs. Robertson, Robins and Russell.

Clinical assistant in ophthalmology—Dr. Tooke.

Clinical assistant in gynaecology—Dr. Goodall.

Clinical assistant in laryngology—Dr. Hamilton White.

Registrar and assistant registrar—Dr. Cushing and Dr. McAuley.

Dr. W. J. Cram was appointed externe in the X-Ray department, and Dr. Klotz house pathologist.

At the Montreal Medico Chirurgical Society Dr. Archibald showed a living case of sarcoma of the tibia. Dr. Finley reported on a case of Still's disease and Dr. Garrow upon a penetrating wound of the abdomen and prostatic calculus. Dr. Bell showed a pathological specimen of Hypernephroma of the kidney and Dr. Lapthorne Smith reported three cases of repair of injury to the ureter. Dr. Wesley Mills read a paper on Problems of the Nervous System, taking up the question of nerve grafting, and the numerous concepts referring to the works of Purvius Stewart and others upon the regeneration of nerves.

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## EDITORIAL.

### MATERNAL IMPRESSIONS.

Throughout the ages there have been those who believe in the influence of maternal impressions as a means of affecting the offspring. It is well known how hard common notions or popular superstitions die. The history of medicine furnishes its full quota of such beliefs.

Among beliefs of an unproved nature those concerning the influence of maternal impressions are ancient, numerous, wide spread, and are held by many members of the profession at the present. The mental impressions that have usually been regarded as capable of stamping some mark or peculiarity upon the child are longings on the part of the mother, frights, and other mental impressions.

Of the first kind may be mentioned the craving on the part of the mother for some article of diet or object to wear. The second form of impressions, or frights, is common. The third form of mental impression is such as would arise from emotions or feelings caused by the narration of some event.

The history of the subject is of much interest. Like many other beliefs it arises from the attempt to explain certain phenomena. When a deformed, marked, or monster child was born, the conditions found were sought to be explained on the hypothesis of something in the life or experience of the mother that had made a strong impression upon her mind. The search was made for some longing, fright or emotion. Failing these, often the agency of some demon or evil spirit was invoked. With the growth of learning on the development of the ovum and the spermatozoon, the belief in supernatural causes gradually disappeared; but that regarding power of maternal impressions still remained unimpaired.

During the eighteenth century, Blondel, Haller and Morgagni began to attack the cases of malformations, marks, etc., said to be due to maternal impressions, with the result that most of the cases were rejected by these writers who claimed that the evidence did not justify the view that they were the result of influences acting through the mother's minds. The nineteenth century saw the belief still further shaken. Numerous writers of eminence, such as Baer, Vrolik, Förster, St. Hilaire, Tartuffi,

threw much light upon the subject of fœtal development, and raised serious doubts about the probability of embryological laws being altered or modified by impressions operating through the nervous system of the mother. The belief was not quite discarded, but it was held that the impression must be very potent and, perhaps, long continued.

In order that the relationship of cause and effect may be maintained between maternal impressions and physical defects in the child, there must be some definite number of such instances following these supposed causes. Excluding naevi, it would appear that there is one defective or malformed child in every two hundred births. This is a much smaller percentage than record of frights and emotions would lead one to expect. William Hunter, Johannes Müller and G. J. Fisher approached the subject in another way. They enquired of several thousands of expectant mothers with regard to frights and emotions such as would lead them to fear that their offspring might be marked or deformed. The results of these enquiries were quite negative, the children not being affected in any way where there had been strong fears that they would be deformed in some manner.

It has now been settled by embryologists that malformations of the fœtus are due to the inhibition of its development. So that if maternal impressions have the power to cause these malformations, it must be because they have power to arrest the normal development of the fœtus, and not only such, but to arrest the development in some portion of it. Now, as to this arrest of development of some portion of the body of the fœtus, it must be borne in mind that the great majority of the reported cases of fright, etc., occurred at a time in the progress of the pregnancy too late to affect the defective part. So that the mischief must have been done prior to the fright or mental impression. There is a certain date in the period of gestation by which the development of each organ is completed, and beyond the possible influence of any maternal impression. Thus, a hare-lip could not be due to a maternal impression after about the seventh week of pregnancy, but many are attributed to frights at a much later date. The fact is that the embryo is practically differentiated into all its organs by the end of the second month, or at a time when the mother is quite uncertain as to her condition, and when frights and emotions would, therefore, play a very unimportant part. Nearly all the recorded instances where fright, etc., have influenced the development of the fœtus, they have occurred at a much later period than the eighth week of gestation.

There are only two possible ways in which maternal impressions can act upon the embryo, namely, through the nervous system, or through the blood. Now, it is definitely known that there is no connection whatever between the nervous system of the mother and that of the unborn child. The fœtal portion of the placenta is distinctly separate from the

maternal portion. There is no through-and-through connection. The fœtus could no more be influenced through the nervous system of the mother than could a parasite on an animal be affected by changes in the nervous system of its host. In like manner the fœtus cannot be inhibited in any portion of its development through the blood. The blood of the fœtus and the mother are quite independent of each other. All the maternal blood can do for the fœtus is to bring nourishment to it and remove impurities from its blood through the proximity of the two blood streams which, however, do not actually mix with each other.

As has been stated, the formation of the various organs has taken place by the end of the eighth week. Up to this time the growth of the fœtus is very rapid, having increased its weight over six thousand times. It is very easy to understand how any changes in pressure could give rise to various deformities. In this way it has been argued that fright may alter the blood supply to the placenta so as to give rise to varying degrees of gaseous pressures on the fœtus. If this be a cause for the production of monsters there could be no connection between the nature of the fright and the kind of monster, as the modified pressure might affect any portion of the fœtus.

## CHRISTIAN SCIENTISTS IN COURT.

On January 4th, 1905, Wallace Goodfellow died in Toronto. It appears that the patient had had an attack of typhoid fever. The condition of the intestines verifying this diagnosis. Dr. Riordan had seen the case, but for eight days the young man was under the care of some Christian Scientists. Four persons, Sarah Goodfellow, Isabella Grant, William Brundrett and Elizabeth See were brought up under a charge of manslaughter.

On the evening of January 3rd, Dr. Carveth, of Toronto, was called in. The room was very poorly lighted, and, as the patient was very weak, it was difficult to make a thorough examination. Dr. Carveth concluded from the rapid breathing, exhaustion, and almost unconscious condition of the patient, that he was suffering from pneumonia. The prognosis was given as extremely unfavorable. The patient died in the afternoon of the 4th January. Dr. Carveth gave a certificate of death from pneumonia to the brother who called for it.

The authorities were aware of the fact that young Goodfellow had been under the treatment of the Christian Scientists and decided to have the case investigated. This we think was quite proper. The investigation brought out the facts that Goodfellow had had an attack of typhoid fever and that he had been allowed up. The post mortem revealed evidence of much exhaustion of the muscular system.

There is no law to compel a person over 21 years of age to send for a doctor, but there ought to be a law that would render it impossible for a person to take charge of any case who has not the requisite qualifications for such duties. Christian Scientists have no knowledge of medicine, surgery and obstetrics. Indeed, they declare that the teachings of medical men are all wrong, and there is no such thing as disease, as it is only a delusion of mortal mind. All you require to do to be well is to *believe that you are well and there will be no longer any pain or sickness.* Persons holding such wild views should be prevented by the most stringent legislation from attending or administering in any way to the wants of the sick or injured.

As the law now stands it is difficult to secure a conviction against Christian Scientists, Osteopaths, etc., because they do not give medicine. This is too limited a view of the science of medicine; and the law should be so amended. A physician may attend an obstetric case, make use of the forceps, repair a lacerated perineum and see the case until the patient is out of bed and never give a single dose of medicine. In like manner, he may attend a case of typhoid fever throughout its entire course without the aid of drugs in any form. In both of these cases he may have displayed great skill. It is, therefore, quite apparent that the taking charge of a sick or injured person with the view of restoring him to health is what should constitute responsible attendance, and what should clearly come within the cognizance of the law as medical or surgical attendance. While it is quite proper that none but the legally qualified practitioner should have any authority to charge for attendance upon the sick, the fact that the non-qualified person makes no charge should not in the least exempt him from the fullest responsibility for whatever he may have done, either by way of advice or drugs. Until this is made absolutely clear the profession and the public will not be protected.

The time has now come when the medical profession should insist upon the medical act being so amended as to render it impossible for those who have received no qualification to assume the charge of medical and surgical cases. It should make no difference whether they charge or do not charge. The most essential feature of the law should be the protection of the citizen. The individual is not always a capable judge as the fitness or otherwise of different classes of "doctors" or "healers." It is, therefore, the duty of the State to protect him against the "unqualified," as much as it is to protect him against adulteration of food or light weights. The condition should be secured under the law that any one who announces himself to take care of the sick or injured should at least have conformed to a standard of medical studies that will ensure reasonable degree of skill. With a united effort, this can be secured. Let the effort be made.

Police Magistrate G. T. Denison committed Mrs. Elizabeth See, Mrs. Sarah Goodfellow, Mrs. Isabella M. Grant and Wm. Brundrett to stand their trial at the next Assizes on a charge of manslaughter.

The statements from the evidence of Mrs. Isabella M. Stewart may prove interesting :—

"With reference to the cure of bodily ills, what is Christian Science?" was the first question asked by Crown Attorney Curry, when Mrs. Stewart took the stand.

"It is the law applied to individual consciousness to determine what is the law of God, as set forth by Mrs. Baker G. Eddy. She applied herself for nine years before she taught it to her followers. We in turn have followed that law, and find it clearly proved beyond a doubt that it is demonstrable."

"Do you treat people who are ill yourself?"

"Yes, sir."

"Did you treat Wallace Goodfellow?"

"No, but I gave his mother the names of some Scientists who would be prepared to take up treatment for him."

"What is the usual charge for treatment?"

"There was no stated price, but some years ago the National Board of Christian Science of the United States established a fee of $1 a visit to the house for professional services."

"Are you confident that Mrs. Eddy is in a position to declare the law of God."

"I firmly believe so."

## DOCTORS IN THE ONTARIO LEGISLATURE.

At the recent Provincial elections for the Ontario Legislature the following medical practitioners were elected: Dr. M. Currie, Prince Edward; Dr. R. E. Clapp, South Bruce; Dr. Lewis, Dufferin; Dr. J. O. Reaume, North Essex; Dr. Smellie, Fort William; Dr. Jamieson, South Grey; Dr. A. W. Nixon, Halton; Dr. Preston, Lanark; Dr. Jessop, Lincoln; Dr. Willoughby, East Northumberland; Dr. R. A. Pyne, East Toronto; Dr. Beattie Nesbitt, North Toronto. Dr. Pyne has been chosen as Minister of Education, and Dr. Reaume holds the portfolio of Public Works.

## THE HOUSE OF COMMONS ON TUBERCULOSIS

In another page we give a report of the discussion in the House of Commons on Tuberculosis. THE CANADA LANCET has frequently urged action in this matter, and is glad that the indications are that the voice of the medical profession in this matter is going to have its influence.

## THE CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

This is one of the most worthy of all the medical associations. So far it has not received the support it merits, but hope there are better days in store for it. With an object so worthy it is impossible for it to fail.

Already the association has proven itself to be of the greatest possible usefulness to those who belong to it. A number of suits have been fought by the association and with a very great success.

It is the intention of the association to try to bring its claims before the profession in some sort of a personal way. We have on several occasions expressed the wish that the many societies scattered over the country would take this matter up and induce their members to become members of the Protective Association.

We cannot too strongly urge the claims of this association.

## SUIT AGAINST TORONTO GENERAL HOSPITAL.

A short time ago a patient who had been in the Toronto General Hospital brought an action at law to recover $160 which he claimed had been taken from him by the hospital or some one of its employees. It was argued that the hospital could not be made responsible for an act of this character. The acts as they refer to hotels, boarding houses and hospitals were quoted to show that the hospital was not liable. Judgment was given in favor of the hospital.

## THE PROFESSION AND THE NORTH WEST.

At a meeting of the Toronto Medical Society held on 16th February, it was moved by Dr. A. A. Macdonald and seconded by Dr. E. E. King, and carried: That whereas in the near future the North West Territories will be divided into provinces; and whereas the Medical Councils of those new provinces will establish regulations governing medical practice therein, and whereas it is desirable to encourage the settlement of physicians from the older provinces in that new district to supply the increased population; therefore the Toronto Medical Society respectfully urge the Government of Canada to make provision allowing licensed practitioners from the older provinces who register within a period of years after autonomy has been granted to be recognized as fully qualified practitioners within the newly organized provinces.

The above resolution is very well as far as it goes. It must be borne in mind, however, that these new provinces will establish their own form of medical control and fix their own medical standards. Anything that

might be gained by the above resolution would only last for a short time. What is needed is a much more radical measure.

A couple of years ago most of us thought that a solution of the difficulty had been attained when Dr. Roddick of Montreal, then a member of the House of Commons, succeeded in carrying through the House his bill for the establishment of a Dominion Medical Council. But there was one weak point in the act—that all the provinces had to give their assent.

The province of Quebec refused its assent, and thus far the act remains inoperative. The question of most Importance before the medical profession of Canada is that the act be so amended that as soon as say five of the provinces give their consent the act may come into force for these provinces. The other provinces would soon join in.

Already Nova Scotia, New Brunswick, Ontario, Manitoba and British Columbia have expressed their approval of the measure. These provinces, by amendment suggested, could form a medical council with powers covering them. When Quebec saw the splendid results that would follow there is not the slightest doubt but that it would also come into the union, and cause the medical council to be truly national.

We hope for this glorious day when provincialism in the medical profession will have passed away, when a new, a brighter era will have dawned, and when a doctor who is qualified to practise in Halifax would also be qualified to practise in Victoria without further examinations.

The matter is entirely in the hands of the medical profession. If the medical practitioners of the various provinces take this matter up with energy they will be sure of success. The Federal Government would no doubt hearken to the wish of these provinces and enable an almost complete National Medical Council to come into existence. Let this be the goal of all.

## BRITISH COLUMBIA MEDICAL COUNCIL AND DR. VEREERTBRUGGHEN.

Dr. Vereertbrugghen is a Belgian physician who located at Kamloops sometime ago. In order that he might legally practise in the Province, it was necessary for him to pass the examination prescribed by the Medical Council for British Columbia. Dr. Vereertbrugghen was successful at the examination. Some time afterwards, Dr. Proctor, who was an examiner, complained that the Belgian doctor was making statements against him to the effect that he had tried to pluck Dr. Vereertbrugghen. The matter came before the council and the Belgian was given an opportunity to apologize; but he declined to do this. After hearing a

good deal of evidence the Council erased his name from the register, declaring his action to be "infamous and disgraceful in professional respect."

The doctor appealed and the case was heard before Mr. Justice Morrison, Mr. A. R. McPhillips, K.C., appeared for the Medical Council and Mr. Joseph Martin, K.C., for the doctor. The case was argued at some length. The Judge decided to restore the doctor's name to the register.

## PLASMODIOPHORA OF CARCINOMA.

The discovery of the cause of any disease is a very important event. When Koch announced his discovery of the bacillus of tuberculosis a new era dawned so far as this disease is concerned; for it is since that date—1882—that all the great work has been done towards the prevention of the disease, and many useful lives saved thereby. The wings of cholera, the plague, yellow fever have been clipped. We may soon clip the wings of carcinoma.

In *The Lancet* for January 28 there is an article of far more than passing interest. Drs. W. Ford Robertson and Henry Wade contribute a paper on the etiology of carcinoma. They mention the work of Gaylord Behla, Roswell Park, and others in search of a parasite, and claim that they themselves have isolated a parasite of the class plasmodiophora brassicae. After much research they succeeded with a silver stain and toning with gold, platinum and palladium in revealing in carcinomatous tissues the presence of the various stages of the growth of the plasmodiophora brassicae.

In 1876, Woronin discovered the plasmodiophora in vegetables and made the statement that it would yet be found that cancer in man was due to such a parasite. The vegetable commonly affected is the turnip. The tumors which this parasite causes on this vegetable are called in Germany Kohlhernie, in the United States club root, and in Britain finger-and toe disease. The parasite passes through a number of stages in its growth and it is the clear knowledge of these that alone can clear up its relationship to carcinoma. It would appear that one stage of growth is in the turnip and another in the ground.

The authors have studied with great care the life history of this parasite as it is revealed in the vegetable, and then applied this knowledge to a comparative study of the parasite as they contend it to be found in carcinomata. The tumors studied were cancer breasts and malignant adenomata and secondarily affected glands. These were all obtained from cases operated upon. Controls were used of various inflammatory con-

ditions of a number of organs. In these examples of cancer they claim to have found the plasmodiophora by their method of staining.

By a very careful method, the writers have been able to make cultures from cancerous breasts and other cancerous specimens of an organism that resembles in its various stages of growth the plasmodiophora brassicae. This culture from the cancerous tumor they call the plasmodiophora carcimomtatis. These researches would appear to throw light upon the work of Russel and San Felice who discovered bodies they called blastomycetes.

But if we turn from the work of the above writers and attempt to obtain confirmatory evidence from the clinical study of cancer, we come to a most important and interesting phase of the question. Tuberculosis is a germ disease; and in its history we have infection by the germ, irritation of the tissues, the formation of tubercles, the ulceration of those, the saturation of the system with toxines, the presence of fever, loss of flesh, and death. If we turn to syphilis, another germ disease we have infection, the formation of a chancre, induration of the glands, fever, loss of flesh, toxaemia, the existence of gummata, ulceration, and often death when the disease is not controlled by treatment. Again, take leprosy. Here we have an infection, the formation of tubercles, the loss of tissue, fever, failure in strength, and at last death. In cancer there is the formation of a nodule, its growth, the spread of the disease to adjacent parts, the chronic poisoning of the system, fever, loss of flesh, the breaking down of the growth and the formation of an ulcerating surface, and the death of the patient. Shall we omit the word infection when we are clearly justified in using the term in speaking of tuberculosis, syphilis and leprosy? The strongest evidence we have of the parasitic origin of cancer seems to come from the clinical side.

The question has been raised "If cancer be of parasitic origin how are we to explain the origin of deciduoma malignum which is now admitted to a carcinoma?" Deciduoma is a malignant development from the foetal side of conception. The explanation is perhaps not far to seek, and when the truth is known may be the strongest proof of the parasitic origin of cancer. It is against all clinical experience to meet with cancer in the very young, much less the foetus. But grant that the uterus already contains the parasite of cancer when impregnation takes place, and it may be easy enough to understand how the foetal portions of the conception become the seat of a most malignant form of cancer. It is well known that this form of malignant growth follows hydatid mole with considerable frequency. May we not in this fact also have another stage of the process. The uterus is already the seat of malignant disease; conception takes place, a hydatid mole results, expulsion is effected, but the

disease still goes on with great rapidity in the active vascular conditions induced by the pregnancy.

Prof. Orth, of Berlin, a short time ago declared in St. Louis that no one had shown the parasitic origin of cancer, nor was it necessary to assume such an origin. The wiseacres opposed the germ theory of disease, and then of tuberculosis, but they turned out to be wrong. It might be answered to Professor Orth that no one has proven the germ origin of syphilis, yet no one doubts it, not even Prof. Orth.

But there are still other features in the history of cancer that must not be passed over in silence. In the first place, the disease is very much more prevalent than it formerly was, and, according to some good authorities, bids fair to be one of the most common of all our diseases. In the second place, it shows a tendency to attack its victims at younger ages than some years ago. And, in the third place, it is appearing among races formerly immune. These facts would seem to prove beyond all doubt that the disease has some cause that is communicable. The very same things occurred in the history of leprosy some centuries ago.

## PERSONAL AND NEWS ITEMS.

Dr. J. R. Jones has returned to Winnipeg from his trip to Florida.

Dr. and Mrs. Shirres of Montreal, have returned from their trip to Panama.

Dr. and Mrs. J. O. Orr of Toronto, sailed, February 2nd, by the Baltic for England.

Dr. G. R. McDonagh, 140 Carlton street, left in the end of January for a six weeks' trip in the southern portion of Italy.

Dr. R. J. Crawford has returned to Winnipeg to resume his practice, after being away in Europe for the past two years.

Dr. Cragg, of Calgary, is attending to the duties of Dr. Mewburn, of Lethbridge, during his vacation in the east.

Dr. W. H. B. Aikins and Mrs. Aikins, of Toronto, have sailed for Mediterranean ports on the steamer Princess Irene.

Dr. D. B. Bentley was removed to the Sarnia general hospital two weeks ago suffering from a serious attack of appendicitis.

Dr. Marion Hansford has been appointed as attending physician to the Metropolitan Dispensary, Notre Dame Street West.

Dr. Mackay of Cookstown, has sold his practice to Dr. Rounthwaite of Toronto. The new doctor has assumed his duties.

Dr. R. C. Redmond, B. A., who has formed a partnership with Dr. J. C. Chisholm of Wingham, arrived there a few weeks ago.

Dr. Harry Bleecker has opened an office for the practice of medicine at Roblins Mills. Dr. Bleecker is a clever, energetic Trenton boy.

Dr. W. H. Moody, of Vancouver, B. C., was married in St. Thomas, Ontario, a few weeks ago to Miss Irene Hawkins, of the latter place.

Dr. Sloan, of Lion's Head, has sold his practice to Dr. Thomson, a former practitioner on the Peninsula. Dr. Sloan will move to his farm.

Dr. and Mrs. Parfitt, of Gravenhurst, were in London and Toronto recently. Dr. Parfitt was in Toronto for a medical board meeting of the sanitarium.

Dr. A. H. Beaton was very ill with pneumonia lately. The crisis, however, has passed and his many friends will be pleased to learn that he is recovering nicely.

Dr. Pelletier, M.L.A., who has been seriously ill from blood poisoning, received while operating on a patient, is now recovering steadily and all danger is passed.

Dr. Draeseke, late surgeon on the C. P. R. liner Athenian, left recently on a visit to his old home in Dundas, Ont. His place on the Athenian has been taken by Dr. McKay.

Dr. E. K. Murray, of Flesherton, was so much improved in health as to be able to leave his bed on 12th February for the first time since January 29th, when he was taken down.

Dr. Amys having purchased the property and practice of the late Dr. Pigeon, who resided at 270 Charlotte street, Peterborough, will have his surgery at the above address.

Dr. and Mrs. Oldright, and Miss Oldright returned on the 30th January from the West Indies. They were delayed two days on the voyage by adverse winds and snowstorms.

Dr. and Mrs. Graham, formerly of Toronto, who have been for the last year and a half in the Northwest, spent a few weeks recently with Mrs. J. F. Stewart, 189 Spadina avenue, Toronto.

Dr. John Bromley of Pembroke has gone to Edinburgh, Scotland, to take a post graduate course in medicine, while Allan Hale of the same town is away to the old country for the benefit of his health.

Dr. Lazelle Anderson has opened offices in the Erickson block, Granville street, Vancouver, B. C., and intends making a specialty of children's diseases, having spent a year in the children's hospital in New York.

Dr. Carder, who has had charge of Dr. Beck's practice at Port Arthur, for the past year, left this morning for Toronto, London and other eastern cities, where he will visit for a few weeks prior to sailing for England.

Dr. Brefney O'Reilly has left for Baltimore, where he will spend three months, taking Dr. William Osler's last course of lectures on clinical medicine at Johns Hopkins University, prior to Dr. Osler's leaving for Oxford in May next.

The many friends of Dr. Johnson, of Elora, will be pleased to learn that he is still improving in health, although but slowly. He is able to go out for a short drive or walk, and it is hoped that his convalescence will now be rapid.

Dr. McGuigan, the ex-Mayor, has resumed the practice of medicine, and in future will devote his entire time to the duties of his profession at his old office over the Owl Drugstore, corner of Abbott and Cordova streets, Vancouver, B.C.

On Wednesday evening 18th January, at the residence of the bride's parents in Madoc, Dr. N. Ford Sutton, of Maynooth, son of Dr. H. H. Sutton, of Madoc was united in marriage to Miss Frank Weir, daughter of Mr. and Mrs. Armour Weir.

During 1904, 15,090 copies of Gould's dictionaries were sold, making a total of 181,173 of these medical dictionaries issued by Messrs. Blakeston & Co.

Dr. B. S. Price and Mrs. Price, of St. John, N. B., left for New York and sailed from there on 26th January by White Star steamer Arabic for a trip to the Mediteranian. They will visit Egypt, Constantinople, Palestine and other points of interest, returning by way of England. They will be absent about three months.

The annual meeting of the Canadian Association for the prevention of Consumption will be held in Ottawa on the 15th March next. The afternoon will be devoted to the routine busines of the Association. In the evening a lecture will be delivered by Dr. Adami of Montreal on some phase of the crusade against consumption. His Excellency the Governor-General will preside on the occasion.

A pretty event took place at the residence of J. E. Varley, St. Thomas, on 2nd February, when Miss Maude M. Philip, daughter of the late Rev. John Philip, D.D., of Kingston, formerly minister of First Me-Methodist Church, St. Thomas, was united in marriage to Dr. Ernest W. DeLong, of Cayley, formerly of Gananoque, Ontario.

The next meeting of the American Anti-Tuberculosis League will be held in Atlanta, Ga., April 17th to 19th, 1905. Governor J. M. Terrell has tendered the Hall of the House of Representatives to the Georgia State Capitol for the use of the League during the meeting, he will deliver an address to the League on the first morning, as will other distinguished men. The opening session is intended to be a broad one, in an educational sense, and the heads of the largest educational institutions of the United States will be invited to be present. Reduced rates will be had on all roads. Hotel rates will also be made special for visitors.

Dr. A. W. Mayburry, of Spadina avenue, and Dr. E. Herbert Adams, of Queen and Bond streets, have returned to Toronto from a trip to the tropics, Jamaica being their chief objective point. They have been investigating the advantages of the climate and hotel appointments of this British possession as compared with the more commonly visited resorts of the Carolinas, Georgia, and Florida.

By order of Mr. Justice Morrison, the names of Doctors Telford, Vancouver, and Veerertbrugghen, Kamloops, will be replaced on the roll of licensed practitioners of British Columbia. Their names had been expunged by the Medical Council for alleged unprofessional conduct. This decision practically limits the powers of the council, and makes the judgments of the council subject to appeal to the courts.

Dr. Frank Wesbrook, professor of bacteriology of the State University of Minnesota, and also State bacteriologist who was, at a recent meeting at Savannah, elected as president of the American Health Association, arrived in Winnipeg on 11th February. Dr. Wesbrook is well known in Winnipeg, and in fact is a Winnipeg boy, graduating from the Manitoba Medical College. The doctor, who is a friend of Dr. Bell, of the college faculty, addressed the latter's class at the college on the subject of "Bovine and Human Tuberculosis."

Dr. Wm. Burt, President of the Ontario Medical Association, recently paid a visit to Toronto to review the work done by the two main committees in advancing the Association's interests for the year. A considerable number of papers have been promised, which, with the assurance of Dr. Ochsner's presence, already guarantee the success of the meeting. This will take place Tuesday, Wednesday and Thursday, the 6th, 7th and 8th of June, in the Medical Buildings, Queens Park, Toronto. The character of the work done by this parent Association of the Province warrants the attendance of every practitioner who can get to Toronto to hear the papers presented.

Dr. J. A. Tolmie, of Moose Creek, Ont., a graduate of McGill University, who has travelled through Great Britain, Africa and India in the past two years, is now in Montreal. Dr. Tolmie entered McGill in 1898 and graduated with the degree of M.D. in 1902. Going to Europe he studied at the universities of Edinburgh and Glasgow. From Scotland he went to South Africa, where he visited the Transvaal and the scenes of the recent Boer war. Then Dr. Tolmie journeyed to India, spent some time in Calcutta and other historical places. After an absence of two years he returned to Canada two weeks ago. Dr. Tolmie leaves shortly for Manitoba, where he intends to practice.

The new wing of the Woodstock hospital was officially opened with an appropriate ceremony on 14th February, Mr. J. W. Flavelle, of Toronto, being the chief speaker. The new addition cost nearly $16,000,

and affords largely increased accommodation for both nurses and patients. Included in the new equipment is a suite of operating-rooms, the gift of Mr. John D. Patterson, of that city. Mr. Flavelle and several Toronto doctors who inspected them to-day pronounced them among the finest on the continent, and superior in some respects to the operating-room of the Toronto General Hospital. At the proceedings to-day the city and county officials were present, together with a large number of citizens from the city and outside places. Among those present from Toronto were Dr. Bruce Smith, Dr. B. E. McKenzie, Dr. Bruce, Dr. Palmer, and Dr. O'Reilly, who was one of the speakers. During the proceedings a letter was read from Mr. Chester Massey, of Toronto, expressing sympathy in the work of the hospital, and enclosing a cheque for $1,000, contribution to current expenses.

## OBITUARY.

### H. W. SPENCE. M. D.

Harry W. Spence, M. D., son of R. W. Spence, of Toronto, died 24 January, after a brief illness. He graduated in 1900 from the Toronto University, went to England, and obtained the diploma of M.R.C.S., from London. During the South African War he was attached to one of the British Regiments in his professional capacity. After the termination of the war he spent some time in India. He returned to Canada in 1904, and commenced his practice in Ottawa.

### SYDNEY E. TYNER, M. D.

Dr. Sydney E. Tyner, of Kingston, died in the Orthopedic Hospital, New York, 14th February, after an illness of four days of spinal meningitis. He left home only a few weeks ago to take an appointment as house surgeon in the above-named institution. He graduated from Queen's Medical College last spring. His mother and two brothers survive, one being Dr. W. G. Tyner, of Picton. The remains were brought home. Deceased was about twenty-five years of age.

### H. B. McCONNELL, M. D.

Dr. H. B. McConnell, a native of Toronto, died 26th January, after a brief illness at his home in West Somerville, a suburb of Boston. He was at his Boston office on the previous Saturday, and to all outward appearances in the full enjoyment of health, but on the following day he was taken ill with a serious internal ailment. An operation was performed on Monday morning, from which he was unable to rally.

Dr. McConnell was thirty-four years of age. He was graduated from McGill College, Montreal, and Trinity College, Toronto. He had practised medicine in Boston for nearly ten years, and was a member of

the Massachusetts Society of Physicians and Surgeons, and house physician at the Massachusetts General Hospital for several years. He was the founder of the Chemists-Electro-Institute, and had his offices in the Hotel Pelham. He leaves a wife and two sons. He had resided in Somerville two years, having lived previously in West Medford.

### JAMES McGREGOR STEVENSON, M. D.

The death occurred 28th January, at Denfield, of Dr. James McGregor Stevenson, brother of Drs. H. A. and W. J. Stevenson, of London, and eldest son of the late Mr. Hugh Stevenson. Deceased had for two days previous to his death been suffering from acute pneumonia, and the end came somewhat suddenly. The late Dr. Stevenson was a native of London, and received his early education there. He afterwards proceeded to McGill University, Montreal, where he graduated at the early age of nineteen years, gaining the Holmes gold medal, and the medal for general proficiency. Being too young to practise, according to the statute, he took a trip to Europe, where he took the English qualifications, and perfected himself in the study of his profession. During the interval he also studied law. He practiced as a physician first in London, then in Bryanston, and finally in Denfield, where he had since remained. Dr. Stevenson was well known as a platform speaker. Dr. Stevenson was married to Miss Powell, of London, by whom he is survived, and also one daughter. Deceased was very widely known and regarded with respect both in his own district and in London, where he had many friends.

## CORRESPONDENCE.

### DR. CARVETH AND THE CHRISTIAN SCIENTISTS—A STATEMENT.

*To the Editor of the Canada Lancet.*

Sir,—I had thought my course of 20 years among the medical men of Toronto, in that trying to work honestly and professionally, would have been sufficient to protect me against charges that have been brought against me in this connection, but some statements lately made concerning my dealings with the Christian Science people require explanation from me.

Some years ago the late John Kent, of McCaul Street, was under my care. After a time he left me to try Christian Science treatment. A day or two before death he became comatose and his friends sent for me and Dr. McPhedran. After his death the case was reported to the Crown officers and an investigation was held. The whole matter came before the late Sir Thomas Galt who, in dismissing the case, made the statement that a man may have whatever treatment he wishes when sick, and the law cannot interfere with him.

Since that time a large number of my patients have left me to try Christian Science treatment. Some of these and their friends still come to me when sick for medical treatment. My treatment of these patients is the same as given to all my other patients.

In August, 1901, I was called to Markham Street to see the child of Mr. Lewis. When I reached the house, I found the boy had been dead a short time. Upon examination, I suspected he died of diphtheria. I took a swab from the throat and, with Dr. Wilson, made a culture which turned out to be diphtheria. Upon finding this out, I reported the case as diphtheria to the Health Officer and gave a certificate of death from diphtheria, not knowing at that time that I was doing anything but what the law requires.

In February, 1903, I attended Mr. Frazee, of Spadina Avenue. Some weeks after this I was called in to attend his child. I found the child suffering from a severe form of scarlet fever, which I reported at once to the Health Officer. The child died in two days and I gave a certificate of death from scarlet fever.

In the early part of January of this year I received a message to attend a young man named W. H. Goodfellow at 61½ Vanauley Street, the message stating that the young man was very sick and that his people did not know from what disease he was suffering. I went to the house and found the young man with a pulse of 130, respiration 65, with nostrils dilating, blue-white in color, bathed in perspiration and unconscious, dulness over lower parts of both lungs.

After some hesitation I consented to treat him. I prescribed for him and saw him again next day, when I found him in a dying condition. After leaving the house, his mother-in-law, living near, called me in from the street and explained to me that a medical man (Dr. Riordan) had been in attendance up to within eight days of that time, but that he had received no medical attendance during the last eight days. His diagnosis had been typhoid with lung complication. On the advice of this doctor, his mother-in-law had reported the full circumstances of the case to the Crown Attorney. Knowing that the Crown officers were apprised of the whole matter, I gave a certificate of death from pneumonia, my diagnosis at the time I saw the patient. I gave the certificate, explaining to the patient's brother that, as the case had already been reported to the Crown officers they would likely investigate and that the responsibility would not be upon me.

Yours, etc.,

GEORGE H. CARVETH.

239 College Street, Toronto, Feb. 11th., 1905.