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LIFE INSURANCE.

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Professor of Medical Jurisprudence and Lecturer on Histology, McGill University.

*(Read before the McGill Medical Students Society, February 28th, 1891.)*

GENTLEMEN,—The chief object that you and all true lovers of the science of medicine have in view in pursuing your studies at this University is the relief of suffering and the prolongation of life. Apart from this, our calling at times, involuntarily or not, places us in the position of aiding the administration of our laws, as well as in the protection of capitalists and others in the administration of beneficial associations or institutions. It is to the latter I wish especially to direct your attention this evening, in attempting to define the relation of the medical man to life insurance associations.

We must, therefore, in the first place, endeavor to ascertain the object of these associations, in the proper organization of which the conscientious and intelligent medical man is an important and useful functionary.

At various times within the last one hundred years calculations have been made, based on the entire population of a city or country, as to the number of births and deaths occurring therein, and from these calculations tables have been formed giving the number of years that individuals of any age may be expected to live. For a long time these calculations were relied upon as a basis of a contract by which an association of capitalists calling themselves a Life Insurance Co. guaranteed to pay the repre-

representatives of any certain individual a fixed sum at his death, in consideration of that person paying yearly, during his lifetime, certain definite sums according to his age at the time of forming the contract. As none of the insurance companies would take manifestly bad lives, the annual payments, based on such general calculations as those first-named, were enormously high. New companies sprang into existence with lower rates, the result of calculations based on selected lives. It was found that by selecting individuals free from physical ailments of any kind, in whose family—ancestral or present—there was entire absence of any hereditary taint, and whose occupation was not injurious; that lives such as these would, on an average, live a much longer time than was given in the tables of earlier date; and that consequently insurance companies would be able to insure such persons at very much lower rates.

Here it is that the services of the physician are of paramount importance. He it is that is relied upon to select the life and say whether or no it is a fit risk for the company to accept on some plan. Should he say the risk is not a safe one for insurance, giving, of course, good reason for his opinion, the risk will be at once declined. Should he consider the life a first-class one, and advise its acceptance, the medical referee and the actuary of the company will, by their combined experience, carefully consider the report of the medical examiner, reviewing the family as well as personal history of the applicant, taking into consideration his habits as regards the use of alcoholic beverages, and forming their own opinion as to the expectation of life. Their decision in regard to this will be acted upon whether it agrees or not with that of the medical examiner. Nevertheless the company will base their judgment on the answers to the questions put by the medical examiner to the applicant, as well as upon his own report of applicant's state of health. Indeed, it more frequently happens that rejections are the results of replies by applicant to questions put to him by the physician than of the report of applicant's present condition. Consequently the examination is not simply a scientific investigation of the applicant's present condition, but is one requiring tact and conscientious

principles. The scientific part of the examination is what you are now qualifying yourself for in pursuing your course here. But you will need more than that to be a useful officer for any company. To make a suitable report you must have a profound sense of professional duty as well as a complete independence of character. With both of these qualities you will be able to put to applicants certain questions which the experience of the various insurance companies has taught them to be the most useful in eliciting the antecedent history of applicants, in such a manner as to convey such answers as will best aid the chief officers of the company in estimating the value of the risk. For instance, it may so happen that an individual, aged say 22, states he had a sister die of childbirth. Having the interests of the company (your employer) in view, you make further inquiries and discover that this sister died eight or nine months after giving birth to a child, that some lung trouble which had evidently been latent revived; that at about the time of birth of child patient began to lose flesh, and upon close inquiry you found she did have cough for a few weeks or months previous to death. All these very important facts you have made out on careful inquiry; further, your questioning may have elicited the additional fact that an aunt or an uncle died, say, at 40 years of age from consumption. Here at once is a very hazardous risk which an unprincipled physician might easily cover up were he so disposed. Such a risk as this would be an extremely undesirable one for any company, although applicant might himself appear to be in every way a first class life. Take one hundred such cases and one hundred lives in whose family is no trace of any lung disease, and the company, I have no hesitation in saying, will receive at least 30 per cent. more premiums from the latter than from the former.

Without complete independence and honesty of character it is impossible for a medical man to serve the interests of the company. You must remember that a large amount of capital is invested in these institutions. They hold a position only secondary to the great railway and banking interests in this country and the United States. In the latter country especially men insure

their lives for enormous amounts. A very few badly selected lives might do almost irreparable damage to even a strong company. Not only will the admission of bad lives deprive the stockholders of their justly earned dividends, but also seriously affect the policyholders, since by a wise provision of most forms of policies the insured are made participators in the profits of the company, which may be utilized for lessening the amount of their annual payments, or may be allowed to accumulate and a proportionally much larger amount be added to the total sum assured. Badly selected lives will lessen the amount of these profits. Not only that, but individuals who have policies in a company and happen to know that some one else of whom they have heard, who is reported to be a bad risk either from drinking habits or impaired health, is insured in the same company with them, and fearing and doubting the stability of such an institution, will hesitate taking other policies in that company. Or, again, agents of other companies will utilize such cases in favor of their own to the prejudice of the company that has taken the impaired life, if that life has been taken in ignorance and without extra rates.

These cases are the ones that try the probity of the medical examiner. If he makes a faithful report to the company he will run some risk of offending the applicant and his family, although I can call to mind that one of my best paying families is that of a gentleman whom I met for the first time some years ago and rejected on account of some heart trouble. Shortly after that I became his family physician, and have been so ever since. Yet I must confess it is too frequently the case that the physician will suffer in the personal estimation of the rejected one.

Nevertheless, in cases such as this you are not likely to be the losers financially. The independence manifested by you in reporting to the company the unfavorable as well as the favorable points in the personal or family history of the applicant you have examined will not be lost sight of by the company, and any honorable and healthy company will see that you do not suffer by being passed over and the examination made by some confrere with a more elastic conscience. All strong companies,

whilst anxious to do business, can be sufficiently independent to require applicants from your locality to pass muster before you.

When you see an insurance company represented in a limited district by a number of medical examiners, you may rely upon it that the interests of that company are not as well looked after as they might be. It is equivalent to a bid for lives which are not first class.

Let me put you upon your guard in an important direction. In all applications for life insurance, one of the questions put to the applicant is whether he has ever been refused by any company. It unfortunately frequently happens that the applicant deliberately lies and says no; at other times, whilst being incorrect in replying in the negative, he may have been under the impression that the application had never reached the head office, or possibly he was advised to withdraw. Nevertheless it did reach the office, and was there recorded amongst the rejections. In such case a notice is immediately sent to all the other insurance companies who are in the combine to that effect, and is there registered by them. Before a policy is issued by any of these companies the register of rejected risks is looked up and the company that rejected asked to furnish information giving reasons for its action. I have frequently seen it happen that in such a case a previous medical examiner had rejected because applicant had a heart murmur that was overlooked by last examiner, much to his chagrin when he hears of it later on, as you may rest assured he will. Or perhaps the previous examiner, by means of closer questioning, had elicited objectionable facts in the personal or family history which had been duly reported by him to his company. A copy of this report is presented to the other companies to which applicant may apply. Of course oversights such as these will be greatly to your prejudice, and show the necessity of making a careful examination of such important organs as the lungs and heart, as well as of the urine.

It will always be your duty to state facts in making your report on the printed form, but as it generally happens that the agent who canvassed the applicant may require you to give him the report, you are at liberty to do so. It may not, however,

always be advisable in such a case—where the application is not sent by you direct to the head office—to fully explain your opinion on some points. A man will probably reply that he is temperate in his habits. You and the head office may have different views of the quantity of stimulants that an individual may take and be “temperate.” Both you and the company may think otherwise either through personal knowledge or through reports, or from the quantity which he tells you he drinks daily. It may not be advisable in these cases, where it goes through other hands, to state fully your opinion of his habits; but your duty will be to write at once to the head office stating you examined Mr. So-and-So, and that he states he averages daily a certain amount of beer or spirits, as the case may be, which is injurious, and leave it with the company to decide as to the value of the risk. Such a letter marked “private” will be respected.

As by far the largest proportion of death claims arise from lung diseases, and too often from a chronic form, some of which might have been avoided by more careful examination of the applicant or enquiries either into his personal history or that of his family, it is advisable that you should not only most carefully examine the lungs in every case, but also inquire into applicant's personal history as well as that of his family. I am fully convinced that heredity has a most important bearing in transmission of consumption. I am equally convinced, as I think most practical physicians of the present day now admit, that it is also eminently infectious. Indeed I am of opinion that the latter is the more important of the two. Where there are no bacilli there is no consumption. I should think that most of those who die of that disease, say after puberty, were free from bacilli at birth, therefore they must have become infected after. If you closely examine the history of those suffering from phthisis in a hospital, you will find that some of them have coughed for years, and possibly lost flesh—although consumptives do not always waste. Examine a little more closely and you may discover that a brother or sister or a parent had died of it after having expectorated for years—which means an immense number

of dried tubercle bacilli floating in the atmosphere of that house. From some dried expectoration some of these light upon suitable soil—suitable possibly through inherited feebleness of constitution only. After the lapse of a shorter or longer period, they take root and grow; it may be rapidly or extremely slowly; with the result of a death claim upon some insurance company. Some of these very slow cases permit the individual to pursue his vocations until the disease has far advanced; a cavity enlarging towards the surface of the lung lights up inflammatory trouble all around its immediate vicinity, which means a local pleurisy; often that is the first symptom that actually inconveniences the individual, and it is for that he seeks relief. Shortly after he dies; a certificate of death follows, giving pleurisy as the cause. It may be that numerous small cavities encroach more internally, lighting up inflammatory trouble about the bronchi. The patient dies with troublesome cough, and bronchitis is here assigned as the cause of death. In questioning applicant he may indignantly deny that consumption was ever present in his family in either of above cases, and be at the same time truthful and incorrect.

These are the cases in which it is of the greatest importance that you should use your tact in discovering, if possible, how long relatives who died from these ailments had been "out of sorts," how long they coughed, or had been losing flesh—all of which you will faithfully report to the head office.

Proportion of weight to height of body is of some importance. All companies will furnish you what they esteem the average weight of first-class lives—tables formed from their own experience or that of others combined with their own. Below the average weight, with any taint of chronic lung trouble in the family, is a decidedly objectionable feature, and one that should be enquired into. It is possible that it may be a family characteristic; in which case, if they are long livers, it will not be of as much importance. On the other hand, you must not be carried away by the other extreme—that above weight will remove objections due to family taint. Those of you who followed my clinic last summer cannot help having observed some patients in my wards who were considerably above average weight—who eat



and drank well, yet had a troublesome cough associated with some of the physical signs of phthisis. Such cases as these should put you on your guard, not to carelessly examine any man because his appearances are first-class.

Loss of weight under any circumstances, if to any great extent, especially if approaching the prime of life, or if associated with long-continued dyspepsia, is a matter that requires the minutest investigation. Every report of medical examination, besides stating applicant's present weight, should also state whether or no he ever weighed more—if so, giving full particulars as to how much, when, and supposed cause of decline in weight; also the period of time that applicant has been his present weight. A full report of these particulars is often of the greatest use to the head office in estimating the desirability of the risk.

We are, most of us, disposed to consider ourselves good, healthy lives, and when asked in a general way if we have ever had any disease of any kind, to reply in an equally general way "nothing except children's diseases." Put a question in a more definite form, thus: "Have you ever been confined to bed from any cause?" On many an occasion I have seen that question bring out answers that have important bearings. An individual says, "Yes, I was confined to bed three days five years ago with a slight bronchitis, and again a day or two with a 'cold' a year ago." In reply to another question you put him, such as "Have you ever consulted a medical man regarding your health, and when?" He replies "yes, but only for slight colds." This may be of no consequence, but if any of his family have died of any chronic lung trouble, or are at that time suffering from it, an individual with such a personal history might not be considered first-class. These replies may show possibly quite correctly that his illness thus reported was of no consequence, but they might also be interpreted as showing that he was himself of the opinion that slight ailments of that nature required careful nursing on account of family taints. Deficient weight or loss of weight, with such a history, would exercise a very important influence in assisting the head office to determine whether or no they ought to accept the risk.

You will have observed that most of the points I have touched upon are matters of report to you on the part of the applicant for life insurance. The report is made to you for three reasons. In the first place, you are the only one qualified by previous study and experience to interpret the bearing of his replies on other points in his past history that may arise. Secondly, an individual will freely answer questions you may put to him which he would consider impertinence on the part of another. And lastly, but by no means the least, his replies may cause you to direct your physical examination more closely to some organ than you might have otherwise done.

Provided the applicant himself is a first-class life, personally, never had any disease likely to impair his life, and passes by some years what his family history has shown to be a critical period in the lives of those members of his family who have died with a so-called hereditary disease, it is quite possible that some insurance companies will accept the risk with certain extras. It does not always follow that because a man happens to have lost one or two members of his family from consumption that he will be rejected. If he is exceptionally good personally, with a very favorable occupation, one company may offer him what is called an endowment policy—that is, one for a limited number of years, say 10 or 15, at the end of which time, if he lives, he will draw the money himself; in the meantime payable on his death. Another company may “load” him; that is, say he is 35 years old, with an expectation of 32 years, they may load him 10 years (expectation 24 years), in which case he pays the same premium as though he were 45 years of age, which, of course, is considerably heavier than the previous age. Another company may offer him a policy with a “lien,” reducing it a certain sum every year; that is to say, a man, say 45 years of age, wishes to insure on the “all life” plan, paying a certain sum yearly. He is quite certain himself that he is a good life, and probably he is, but, unfortunately, one parent died at, say, 40, of consumption, and a brother or sister at 25 of the same disease. Weight and everything else being very favorable, I think an assurance company would be quite justified in accepting

such a risk, with a lien of, say, \$500, decreasing every year by \$25. By this plan the applicant himself takes part of the risk for the first few years. In this way, although he pays the rate on, say, \$1,000 insurance, should he die before the second payment is due, \$500 only will be paid to his representatives; but for every yearly payment he makes, the amount payable at death increases by \$25, until the "lien" quite disappears, if he survives the expectation at his age.

As medical examiners of a company you, however, will have nothing to do with any such arrangements as these. I mention these points merely to show the importance of the examiner being minute in his replies and exercising sound judgment as to the nature of the replies that require these minutiae. Neither will you have anything to do with the amount for which any one is applying for insurance. All require the same care. Some wily individuals who may feel somewhat shaky as to their passing an examination may apply purposely for a small amount, thinking either the examiner or the company, one or both, may not be so particular in making inquiries, or in the examination of the risk, and then pass. A short time after, within a few weeks say, they apply for an additional policy, which might possibly be granted simply on certifying that he is in a sound state of health, and that there has been no change in his family or personal history since last examination.

What I have already mentioned are only a few of the principal points which my experience as chief medical officer of a large and prosperous insurance company I have considered the most desirable that should be fully impressed upon you. I merely hope that all of you may become medical examiners to some first-class insurance company. Some of you, I feel certain, will. I feel equally certain, from what I know of you, that you will sustain the reputation of your Alma Mater by doing your duty to those who may make use of your services.

## THE RELATION OF LESIONS OF THE EYE TO CONSTITUTIONAL AND ORGANIC DISEASES.\*

By J. W. STIRLING, M.B., &c.

Surgeon Oculist to the Metropolitan Dispensary.

*Gentlemen,*—The subject of my lecture is one of much importance, and of such a wide scope, that I must needs generalize and curtail in order to bring the subject matter within reasonable limits.

In the words of Hughlings-Jackson, “The best and most hopeful feature of ophthalmology is that it has relations, closer or more remote, with every branch of medicine and surgery—indeed, with almost every branch of science.”

On the structure of the eye it is unnecessary for me to dilate, but I wish to draw your attention to the subject of the development of the eye as having a very marked bearing on the relation of its lesions to those of the other parts of the human frame.

As you know the primary optic vesicle is an outgrowth from the proencephalon towards the outer epiblastic covering of the head. This ball-like growth soon folds in on itself at the apex, forming a sort of cup, the cavity of the cup being the secondary optic vesicle, the inflected part is the retina, while the posterior part is the choroidal epithelium. The stalk becomes the optic nerve.

At the under surface of the depression there is a slit—the “choroidal fissure”—which permits some of the mesoblast to give access to the interior of the eye. This slit forms the coloboma, which we occasionally see traces of in the fundus of the adult eye; it is prolonged back to the optic nerve, and contains the central artery of the retina. The margins of the coloboma afterwards unite completely, with the rare exceptions I have just mentioned, in which it persists.

The lens is formed by an ingrowth or bud of the epiblastic covering of the head into the cup or depression above mentioned. This separates eventually from its epiblastic original layer. Then

\* Read before the McGill Medical Students Society, February 11th, 1891.

the epiblast layer covering in the front of the vesicle becomes the corneal stratified epithelium.

The substantia propria and descemal layer of the cornea are of mesoblastic origin.

We thus see that, developmentally considered, the eye is composed of epiblastic and mesoblastic tissue. Now the tissues which are of epiblastic origin are related to the epidermal tissues of the body, and those of mesoblastic to the fibro-vascular structures, including bones, blood-vessels, muscles and cutis. This relationship exists not only in regard to the mode of development and nutrition, but also to the pathological changes of these several systems.

Tweedly draws attention to the close relation between the development and functions of the brain and those of the optic nerve and retina; as these last are, as we have seen, genetically direct and early outgrowths of the brain.

Again, the eye and its appendages receive their nerve supply from six of the twelve pairs of cranial nerves. Also the concurrence in organic evolution of the ocular development with the development of the powers of locomotion receives some light from pathology in the connection between locomotor ataxia and failure of vision. These all point to the intimate relationship between the eye and the rest of the body.

There is thus a histological and physiological connection and relationship between the epiblastic elements of the eye and the rest of the body, and between the mesoblastic tissues of the eye and of the rest of the body. The pathological relationship is intimate and exact.

The cutaneous eruptions of children—eczema, herpes, impetigo, etc.—are concomitants of the phlyctenulæ of the corneal epithelium. Syphilis is a disease of the mesoblastic layer, and accordingly the mesoblastic tissues of the eye are affected. The notched teeth of syphilis being due, not to faults of the epiblastic enamel, but of the mesoblastic dental papillæ.

Again, certain drugs have affinity for certain tissue elements, and this fact can be taken advantage of in prescribing.

It is well to note the frequent connection of lesions of the

posterior layer of the cornea with toxæmic states in which the serous or synovial membranes are affected.

From the foregoing short glance at the interdependence of embryologically similar tissues in morbid conditions, you can judge of the great importance of this factor in the correct appreciation, diagnosis, prognosis and treatment of the various diseases.

Epiblastic origin.	Mesoblastic origin.
	Fibro-vascular tissues.
Brain.	Muscles and cutis.
Retina and optic nerve.	Genito-urinary apparatus.
Lens.	Cornea, sclera, iris.
External integument.	Choroid, vitreous.
Epidermis.	Capsule of lens.
Corneal epithelium.	Muscles.
Cuticle.	
Organ of special sense of sight.	Supporting and nutritive system of eye.

Another general factor in connection with eye lesions, as with extraocular diseases, is this: that at certain ages the patients are more liable to certain forms of disease—*e.g.*, phlyctenulæ between the 4th and 16th years, interstitial keratitis between the 7th and 20th years, and, I believe, keratitis punctata between the 17th and 30th years. In connection with this time factor, I may mention as of importance the effect of the onset of menstruation. It is at this period that affections of the eye may declare themselves, characterised by the peculiar dyscrasia of the patient, especially syphilis and rheumatism. It happens not infrequently that the ocular lesion of hereditary syphilis may not have manifested itself before puberty, and when it now appears it is generally very disastrous and malignant.

After the preceding brief glance at some general points of relation between the eye lesions and other organic and constitutional diseases, I will now particularize. We will consider:

Firstly, *The eye symptom as a concomitant or secondary one to lesions outside of the eye.*

Secondly, *The eye symptom as primary.*

As to the first division then, it will simplify matters greatly if we further subdivide into (a) diseases of the eye arising from direct continuity with lesions elsewhere ; (b) those arising through vascular mediation ; and (c) those due to nervous influence.

As this portion of my subject is of such vast proportions, I will limit myself to those lesions observable by the naked eye—viz., those of the lids, conjunctiva, cornea, iris and lens.

Firstly, then, as to those originating through continuity of structure. We have, as commonest, that form of conjunctival catarrh associated with influenza, or severe acute nasal catarrh ; it is of the irritative, watery type. Pemphigus, erysipelas, leprosy and lupus have been reported ; also the spreading of tumors affecting neighboring parts, most frequently epithelioma or rodent ulcer. A marked case of this I can recollect in my first years in the Royal Infirmary in Edinburgh—that of an old Scot's Grey soldier. The growth spread across the nose into the orbit of the opposite side, destroying the nose and both eyes, finally killing the patient despite all operative procedure.

Again, I have known cases of abscess at the root of a carious tooth in the upper jaw, burrowing into the lower lid, and pointing there as an apparent abscess of the lid.

Secondly, As to those diseases arising through vascular mediation. This is by far the largest group. The first, commonest, and at the same time one of the largest members of the group is undoubtedly syphilis. We can have all of its three stages represented—from the primary hard sore, which will be referred to later on, to the most pronounced tertiary symptom.

Passing over the primary sore for the present, I will begin with the secondary symptoms. The commonest symptom is iritis, of the plastic type, which occurs anywhere between the second and eighteenth month after inoculation, but is most frequent between the third and ninth month. The iritis may be of the purely plastic type—*i.e.*, muddy, sluggish iris, with flecks of lymph on the posterior surface of the cornea, which, after floating in the aqueous humor, have been precipitated on the cornea.

Again, the iritis may be more characterised by the formation of gummata on the iris, constituting the form known as guma-

tous iritis. These occur, as a rule, in iritis which is very late in appearing. The gummata are yellowish, vascularized nodules, which may grow slowly, with little or no pain, and have to be distinguished from tubercles of the iris, which latter are generally smaller and always paler. Of course the constitutional state also helps in diagnosis.

Two other points in diagnosis I might mention as aids to you, viz., gummata, as they grow, become a dirty brown instead of the original yellow; and, again, gummata generally grow from the edge of the iris, whereas tubercle grow from the periphery. Do not be confused by the name and consider gummatus iritis as belonging to the tertiary stage; it is a late secondary.

Syphilitic iritis generally occurs in only one eye; if due to altered blood states, why should it not occur in both? This question is unanswered yet, but Leber of Göttingen holds it may be due to entanglement in the capillary meshes of the iris, of coagula containing the specific virus. This is as yet only a theory.

The iritis of inherited syphilis occurs generally at puberty, and that in connection with interstitial keratitis some few cases are met with in infancy between the 2nd and 15th month; and I have also seen an evident case of inter-uterine iritis.

Next as to keratitis; it is of the interstitial type, and generally occurs in hereditary syphilis. The hereditary variety is commonest between the 7th and 16th years, but may occur as late as the 29th year. It has a marked tendency to relapse, and is generally associated with inflammation of the iris and ciliary body, if not the choroid. The younger the patient the better the prognosis.

In the form of keratitis occurring in acquired syphilis, the tendency is to be patchy, and it is associated with deeper changes in the iris, ciliary body, and choroid. Secondary eruptions, of course, occur on the lids.

As to tertiary symptoms, I have seen gummata of the lids and conjunctiva. In the latter position they appear as pale, gelatinous elevations.

Deep bone changes, etc., occur as elsewhere; nodes are not very common.



Of the deeper changes in the retina, choroid, optic nerve and motor nerves I will not now treat; otherwise, with what I have to say of other diseases, my lecture would be spun out far beyond the stipulated or expected time.

Passing to the next most frequent disease, I think rheumatism claims our attention. Rheumatic conjunctivitis is a well-marked variety, characterized by a pale redness, with a watery state of the eye; pain sometimes severe, and peculiar, in being worse at night just after retiring. Any marked astringent in treatment does harm; constitutional treatment has mainly to be depended on for a cure. Rheumatism also causes frequently a severely painful iritis, with a great tendency to relapse. This iritis generally occurs during the prime of life, and never, as far as I know, in an *acute* attack of rheumatism. Another frequent complication of rheumatism is scleritis, generally occurring just outside the corneal border in patches.

Again, cases of acute rheumatism of the ocular muscles have been reported, with symptoms of high temperature and pain in muscles of eye, and swelling of conjunctiva over them.

In connection with rheumatism, we may refer to gonorrhœal rheumatism, which has associated with it a, happily rare, but very severe, iritis. It generally occurs in both eyes, but not always simultaneously, and may recur with a fresh attack of gonorrhœa or of the affection of the joints. Gonorrhœal conjunctivitis is, as we all know, due to direct infection, not to any vascular mediation. Allied to this group is the gouty dyscrasia. Here we also have a form of iritis similar to the rheumatic, and some authors assert there is also a marked tendency to glaucoma.

The children of gouty parents are sometimes afflicted with a peculiar sneaking form of irido-cyclitis, there being little, if any, inflammatory phenomena, the patient merely complaining of dim vision, when on close examination we find the posterior surface of the cornea dotted over with minute precipitates of lymph which have been thrown off by the iris and ciliary processes.

The iris is sluggish and does not dilate well under atropine, showing sometimes synechia, the tension is markedly increased, but is distinguished from the increased tension of true glaucoma

by the anterior chamber being of normal or possibly increased depth.

Diphtheria, as we know, has its eye complications. Diphtheritic inflammation of the conjunctiva is in this country happily rare ; when it accompanies the throat affection, it, in the majority of cases, precedes the latter. It is exceedingly dangerous, as there is a great tendency to implication of the cornea with a corresponding loss of vision. The other diphtheritic complications are, as you know, mainly paralytic, the muscle of accommodation being frequently affected. The exact nature of this paralysis is as yet in doubt.

Tuberculosis also affects the eye. We have a form of tubercular iritis, which I mentioned to you just now in speaking of the differential diagnosis of gumma of the iris. I have also seen tuberculous ulcers of the cornea and conjunctiva. As a more distant symptom we have motor paralysis of the eye from tuberculous cerebral deposits. Tubercular affections of the choroid, retina, etc., are also found.

Typhus fever gives rise to a severe form of irido-cyclitis of a markedly purulent type.

Diabetes causes, besides deeper changes, cataract ; how, is yet uncertain. Whether from sugar in the lens, aqueous or vitreous, or from the cachexia, is unknown. Cases have been reported of clearing up of the opacity on improvement of the constitutional disease.

Besides acting through altered states of the blood, diseases of distant parts can set up eye trouble through vascular mediation by means of emboli. Ulcerative endocarditis I have seen set up a most disastrous form of iridocyclitis in a young person. In the same way, or, as Oellerts insists, by thrombosis, we have, after cerebro spinal meningitis, a purulent iridocyclitis or cellulitis of the orbit, or purulent choroiditis. Its course would be a continuation of the meningeal inflammation by means of the lymph spaces of Schwalbe—*i.e.*, the communication of the sub-arachnoid space with the intravaginal space of the optic nerve. Oellerts, on the other hand, says the thrombosis of the vessels by columns of white blood corpuscles and the disturbance or

even stagnation of the circulation which they occasion are sufficient to produce an acute disintegration of the red corpuscles. These disintegrating masses, like the conglomerations of white corpuscles, become thrombi and a copious diapedesis follows. The fine capillary circulation in the lids, orbit and uveal tract of the eye would favor this development. The inflammations of the choroid, iris, orbit or lid which sometimes follow parturition would, I think, be better explained by this hypothesis than that of an embolus.

I have known acute orbital cellulitis follow furuncles of the face, the road being the angular vein. Cases have been reported after tonsillitis, the course here being *via* the sphenopalatine vein. Suppurative phlebitis would cause it, the suppuration being set up by abscess of the face, lips, etc.

Let us now pass to the third group, those secondary eye complications arising through nervous influence. The ocular lesions in these cases may be purely reflex, or they may be of a trophic nature consequent on the depressed or irritable state of the nervous system arising from a generally impaired nutrition. Of the former or purely reflex, I have had a most marked case lately under my observation. It was a case of irritable monocular conjunctivitis which resisted all forms of treatment, and although I examined the nose at the outset, the pathological state seemed too slight to account for any such marked reflex phenomena. In the nose there existed slight hypertrophy of the superior turbinated, which pressed at one point against the septum. However, finding everything else failed, after a couple of consultations the removal of the offending hypertrophy was decided on, and after six weeks of tunnelling, etc., the recovery of the eye was complete.

Similar reflex phenomena can arise from carious teeth, for cases of strabismus, paralysis, spasm of muscles, conjunctivitis, keratitis, glaucoma, amaurosis and exophthalmos have been reported. Rumeau asserts that these may not all be purely reflex in nature, but may be due in the more superficial diseases to some obstacle to the venous circulation by compression of the ophthalmic or facial vein. Removal of the affected tooth in all the above cases effected a cure or caused great improvement.

Again, gastric disturbance, especially in children, can frequently give rise to eye symptoms, generally of a phlyctenular nature,—insufficient or improper feeding, a correction of which will have more to do with effecting a cure than local treatment.

Reflex phenomena with the sexual organs as the cause are very common, especially among females. The number of symptoms are so numerous that they would be sufficient to form the subject of a long paper. Especially do the symptoms appear at puberty and the menopause.

I have seen dysmenorrhœa set up a most persistent form of episcleritis, also phlyctenular mischief; iritis has also been reported. Amenorrhœa has been followed by ocular hemorrhages, iritis, optic neuritis, etc. Pregnancy may set up paralysis of accommodation. In fact the possible lesions are legion.

Leaving the purely reflex, we come to those symptoms due to a depressed state of the nervous trophic system. Following certain diseases and their attendant weakness, we have frequently ulcers of the cornea. When there is merely an irritable state existing, we see phlyctenulæ often develop, the irritable state of the corneal nerves causing a hyperplasia of the tissue elements, which, instead of forming healthy corneal tissue, break down. If the stage of irritability has been passed, the depression stage ensues, and we get the large necrotic ulcers of the cornea—neuroparalytic—generally of a very slight inflammatory nature, the necrosis partaking of the nature of a bedsore. These may proceed from bad to worse, or may hang fire and remain indolent, the tissue elements lacking reparative power.

The other nerve lesions setting up eye symptoms, such as encephalic tumors, are generally accompanied by changes in the nerve and retina. These I will not touch on beyond mentioning the pupillary symptoms.

So now for a few words on the semicology of the pupil. As we all know the healthy pupil reacts to light and in accommodation.

1st, When there is complete cessation of cerebral activity, the pupils are in a state of stable mydriasis, as in the state of shock or in laceration of the brain.

2nd, If the brain functions are simply what might be called in a state of irritation, the pupils are contracted generally, firmly—as in anæmia, certain degrees of brain pressure, or early stages of cerebritis.

Any of these latter factors increased to a great degree would cause mydriasis, as one may readily see; for example, in cases of repeated hemorrhage, which are finally pushed to syncope, or, again, in gradually increasing intracranial pressure from tumors.

The opposite to the foregoing holds for lesions of the spinal cord, for here irritation causes mydriasis, and destruction causes myosis.

If one-half of the cerebrum is affected by a cortical or superficial lesion, the pupil of the corresponding side is either dilated or contracted according as the function of the hemisphere is suspended or merely in a stage of irritation.

There are many other points I would like to touch on, but time forbids, and I must reserve a little space for the closing part of my paper.

We have, so far, considered the eye symptoms as secondary to, or concomitant with, lesions elsewhere; let us now for a very few minutes glance at the cases in which the eye lesion is primary. These are comparatively few.

Syphilis comes first. Here we may have the initial hard chancre on the eyelid; several cases of such have been reported, arising from a kiss, there being an open syphilitic sore on the lips of the one person and a slight crack or abrasion on the lid of the other. In Southern Russia quite a number of cases of hard chancre of the conjunctiva have occurred, originating in a peculiar way. It is there thought that passing the tongue's tip in between the eyelid and the globe is a cure for inflammations of the eye; the rest is self-evident. A syphilitic sore on the tongue and a slight abrasion of the conjunctival epithelium did the mischief.

Quite a number of cases have now been reported where purulent ophthalmia has been followed by inflammation of the joints.

As I noted early in this paper, diphtheritic conjunctivitis may precede the throat symptoms.

Some cases have been reported where the initial lesion of tuberculosis appeared to be in the eye.

Tumors may have their primary seat in the eye, as, for instance, sarcoma, which may be pigmented or not. There is the greatest tendency to metastasis, the secondary seat being generally in the liver. Everything points to the blood as being the carrier of the infection. Another form of malignant tumor has also the eye as its primary seat—the glioma, or, rather, gliosarcoma. It is only about half as frequent in occurrence as the true sarcoma, and generally grows in childhood. It spreads, as a rule, up the optic nerve to the brain, although cases of metastasis have been reported in the liver, kidney, ovary and lungs. Two cases came under my own observation shortly after I commenced practice.

A lady brought her child, aged 3 years, to me on account of the large size of one of the eyes. Examination revealed a gliosarcoma; immediate extirpation was decided on as the only chance, but the growth had already infiltrated the nerve sheath far up. The child died with brain symptoms two months later after a transient improvement. A year later the unfortunate mother brought me another child, about 5 years old, with exactly the same symptoms. She was horrified when I told her my diagnosis, and refused treatment, although there was more chance of success in this case, the disease not being nearly so far advanced as in the former one. Later on this case died also with brain symptoms. These cases are rather unique on account of the rarity of the disease, the ratio being one in about twenty-five hundred.

Now, gentlemen, I am afraid I have trespassed at too great length on your time and patience. My subject has one fault—it is too vast to attempt to handle at all in one lecture. After starting to write my lecture I felt inclined to change the subject, but on second thought decided to stick to it, trusting, at any rate, that I may have shown you the importance of the subject, and that having pointed out the road, you may perchance be able to travel ahead yourselves. The connection, for instance, of eye symptoms with brain lesions in helping to localize the seat

of the lesion is daily gaining in importance. This I briefly glanced at in treating of the semicology of the pupil, but there is subject matter enough in it to form the basis of numerous lectures. The different fields of vision, the variations of color sensation, the varying diplopia arising from the paralysis of a group of nerves or a single nerve,—all these, and more, offer lots of material to delve in.

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## THE DIAGNOSIS AND TREATMENT OF EPILEPSY.

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*(Read before the Medico-Chirurgical Society of Montreal.)*

The diagnosis of epilepsy, as a rule, presents but little difficulty. It is, however, not unusual to meet with cases where very considerable trouble is found in concluding whether we have to do with true epilepsy or some allied affection. Hysteroid and motor disorders more frequently and closely simulate epileptic convulsions than any other affection. It is more frequent to find cases of epilepsy treated as hysteria than the converse. The following case, which presents many extremely interesting features, was diagnosed by more than one physician as hysteria.

A girl, when 12 years of age, began to complain of fits, which were variously diagnosed as epileptic and hysterical. Her father was an inebriate. Her mother and only sister suffered from neuralgia. There is a history of insanity on the mother's side. The "fits" begin nearly always with the expressions "Oh! I'm sick," or "I want my mother." "Take me home." For a period of two or three minutes she has a frightened look, but is not convulsed. She then falls into a deep sleep, lasting half an hour. She awakens up complaining of headache, and for an hour or two afterwards is, according to her mother's statement, "not quite herself." On one occasion she was requested to set the things for the tea-table. an hour after having a fit. She placed the plates on the table upside down. She generally passes urine during the fit, but has never bitten her tongue. She has no remembrance of what she says or what passes during

these "turns." On one occasion she had convulsive movements and turned over on her face. This fact itself is sufficient, I think, to establish the diagnosis that the "turns" are genuine epilepsy and not hysteria. It is certainly a matter of great importance to be able to draw a distinction between these two diseases.

The following case was also variously diagnosed as epilepsy and hysteria. A female, aged 25, with previous good health, two months after a severe mental distress, had a "fit," which she describes as a "stiffening of all her muscles." For the past year she has been troubled every two weeks with fits, which she characterizes as "severe" ones, and in addition, she has almost daily attacks of minor fits. The former are preceded by blindness and ringing in the ears, and followed by fits of "crying" and "laughing." During the attacks, which last about a minute, she is rigid. She has no remembrance of what passes during these fits. She bites her tongue and passes urine in the fit. In the slight fits she says that she has "strange feelings coming over her and then I lose consciousness, but only for a moment."

I think there can hardly be any doubt but what we have to do here with true epilepsy and not with hysteria. The hysteroid symptoms following the attacks do not exclude this. It is not uncommon to find such states in both sexes. The passing of urine and the tongue biting during the paroxysms are, however, sufficient to establish the diagnosis of epilepsy. The tonic character of the convulsions and the hysteroid state after they have passed away were, I have no doubt, the features in this case that led to the diagnosis of hysteria; and further, there was a history of those conditions which are so productive in giving rise to hysterical attacks.

It is not very rare to find genuine epileptic attacks alternating with hysterical attacks in females. Should such a patient happen to be observed only during the hysterical seizure, it is very likely that even a close observer would be misled, and would go on treating the case as one of pure hysteria.

If a patient, either male or female, bites the tongue and passes



urine involuntarily during a paroxysm, it may be set down as a certainty that we have to do with epilepsy. Patients who only have attacks of minor epilepsy followed by hysterical seizures present great difficulties for diagnosis, but nearly always, on close questioning, we are able to obtain a history of minor attacks without any post-epileptic hysterical seizures. If in the minor attack urine is passed involuntarily, the nature of the case is clear.

Unusual forms of megrim sometimes closely simulate attacks of minor epilepsy. The following case of ophthalmic migraine was mistaken by more than one observer for true epilepsy:— A married woman, aged 24, in the summer of 1888, had three attacks at intervals of a week, which began by blindness of the temporal half of each visual field. This lasted for one minute, and on one occasion the blindness extended completely over both fields. She felt a “peculiar numb sensation” spreading up the right arm; this was followed by a painful feeling in the right eyeball, which passed away in a few minutes. Altogether these attacks lasted about ten minutes, and were on every occasion followed by a state which she describes as “being foolish and saying and doing stupid things.” She would use words wrongly, a condition of sensory aphasia. After taking Indian hemp she was not troubled again until a few weeks ago. During the past four weeks she has had six in all, closely resembling those she previously had, except that in place of a pain in the eyeball she has a compressed feeling in the head. It was the latter attacks that were mistaken for epilepsy. The resemblance is, indeed, close, but from the distinct history obtained of the previous attacks, there can be no doubt, I think, but what we have to do with ophthalmic migraine.

Ordinarily the migrainous paroxysm is so prolonged, even in the ophthalmic varieties, that the diagnosis is not a matter of difficulty, but in the case related the time was comparatively short. It should be remembered that we sometimes meet with migraine and epilepsy in the same subject, paroxysms of each taking place irregularly or more rarely alternately. Cases have been recorded where migraine has ceased after the development of idiopathic

epilepsy, but to reappear after the cessation of the epileptic fits. Such combinations and relations of these two diseases is a subject of great interest.

In the diagnosis of epilepsy, it is well to remember that loss of consciousness is not an essential part of the epileptic paroxysm. It is commonly believed that loss of consciousness always attends true epilepsy. In those text-books of medicine most popular at the present time, some state that loss of consciousness is an essential part of the fit, while others hold that it is not essential. In the vast majority of all cases, and in every case of severe epilepsy, there is loss of consciousness. A recent writer contends that loss of consciousness is an essential part, and that without it we have no epilepsy. In what are called abortive attacks of epilepsy it is very frequent to find consciousness present throughout. The following case must be taken as an example of genuine epilepsy, and yet consciousness in a certain number of fits was never lost.

A man aged 22, seen in 1885, had been subject to fits for some months. They were of two different varieties. (1) In one form he would suddenly begin to rub the palms of the hands against each other; these movements were continued for about one minute, and would cease as suddenly as they began. The patient would then proceed with the work he was engaged in, entirely unconscious of what he had passed through. (2) In the other variety he was usually seized with flexion movements at the wrist and elbows, sometimes on the right side, sometimes on the left, and on a few occasions simultaneously in both upper extremities. During these muscular movements consciousness was maintained, never lost.

Now both of these attacks were epileptic in character. Cases illustrating this point might be easily multiplied, but that would serve no useful purpose. One undoubted case is sufficient to prove that loss of consciousness is not necessary to epilepsy. In the diagnosis, it is not enough to be satisfied with having determined that we have to do with epilepsy; we have to go deeper and find out what is the active factor in the case in question which has brought it about. Unfortunately, in the

majority of cases our investigations in this direction are fruitless; still, cases now and then are met with where the reward more than compensates us for our time and trouble.

It will be necessary, for the sake of clearness, before considering this subject, to take a survey of the nature of epilepsy. It is necessary, for intelligent treatment, to have a working hypothesis to go on. From the earliest times the nature of epilepsy has been a subject of the greatest interest. It is unnecessary to refer here to the numerous and often crude ideas that have been advanced in the past to explain its origin. Even now, after centuries of speculation and work, we cannot say that we know anything positive as to its true nature. Through the labors of that great medical philosopher Hughlings Jackson, and also the admirable work done in this connection by Gowers, we may consider it as proved that the epileptic paroxysm is dependent upon an instability of the nerve elements in the gray matter, which has as a consequence a proneness to discharge violently. The intimate changes that bring about this instability are unknown. In many cases the influence of an indirect heredity is marked—*i.e.*, an heredity to various functional nervous affections. Such a history is obtainable in 35 per cent. of cases.\* A large number of epileptics are born, then, with this instability. The above proportion seems, after considering everything, small. It is so difficult in these cases to get a full and true history that we may be safe in saying that probably in 50 per cent. of all epileptics a neurotic history is obtainable, and we must consider the fact that these histories only refer to marked disturbances. The numerous silent but potent forces ever at work in the generation of being are beyond questionings. When we consider how few people live up to a high moral or physical state, the wonder is not that there are so many, but that there are so few born with unstable ganglion cells. Many epileptics would no doubt escape if their training and habits were not vicious. A slight instability becomes, as the results of bad training, a confirmed and marked instability. Some of the causes that lead to this, in a measure, acquired instability will now be shortly considered.

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\* Gowers, Diseases of the Nervous System,

First, as to the influence of *traumatism* in establishing ganglionic instability. It is only within a comparatively recent period that the influence of traumatism in establishing functional neuroses has been fully recognized. Its marked effects in bringing about hysteria has been specially insisted upon by the Charcot school. The profound and chronic neuroses following railway injuries are seen and recognized everywhere. That genuine epilepsy arises from traumatism of a general nature is also an undoubted fact. I do not mean traumatic epilepsy from injury of the brain or its coverings, but an instability originating as part of the general disturbance or shock attending falls, etc. The following case I look upon as an example of genuine epilepsy originating in this way :

A woman, now aged 43 years, enjoyed good health until two years ago, when she had her first fit. The fit followed twenty-four hours after a severe fall on the ice. Her nose bled freely at the time of the accident, but otherwise there was no wound of any kind, neither was there any loss of consciousness. Her family history is good. Mother died at 62 from dropsy ; her father is 90, and in the enjoyment of good health ; four sisters and four brothers all in good health. Her first fit, as mentioned, followed closely on the fall ; the second four weeks after, and four months after the second she had seven fits within twenty-four hours, and did not recover consciousness between them—a true status epilepticus. Since then she had several fits at intervals of two and three weeks.

There can be no question that here we have a genuine epilepsy, and that it was in all probability induced by the severe commotion from which she suffered. There is not the slightest evidence of any internal injury, and there certainly is no necessity to assume any gross change to account for the epilepsy. From the literature of epilepsy it would be easy to multiply cases of this kind. Another form of traumatic epilepsy is one of very great importance. I refer to that which follows, and is due to, the cerebral concussion produced by the application of the forceps at birth. I have seen several cases where this was, in my opinion, the probable cause. A few months ago I saw a boy,

7½ years old, who had his first fit twenty-four hours after birth. He remained for three days in an epileptic state. Since that, fits have recurred at irregular intervals. He is the eldest of three children. Family history good. The delivery was accomplished with the forceps. In any one case it is difficult to prove that the concussion and compression of the brain caused by the forceps is the cause of the fits which follow, but the considerable number of cases where epilepsy has followed the application of the forceps leaves no room to doubt that it must be set down as one of the rarer exciting causes of this disease. This is a further warning to those who needlessly use these at times indispensable instruments.

I wish now to refer to a way in which cerebral instability is brought about by the poisonous action of alcohol. That alcoholism is able to bring on true epilepsy is beyond doubt. I have met with two cases of undoubted alcoholic epilepsy. In one, the patient became a confirmed drinker after his 30th year. His first epileptic fit occurred after a three days spree; he had given up everything in order that he might drink. Now this patient at times was able to keep sober for weeks and even months, but he never had any fits except when he went to great excess, and then he almost invariably had them. Now this patient did not drink because he was an epileptic, but he became epileptic from the action of alcohol in destroying the central zone of his higher nervous mechanisms. In the other case the patient had two distinct attacks of the status epilepticus following two prolonged bouts of drinking. One occurred in 1884 and the other during the present year. In the intervals he was perfectly free. This case is a very striking example of the influence of alcohol in bringing about that instability of the cerebral gray matter which is at the bottom of epilepsy. How alcohol induces these changes is unknown. From the history of the cases reported, and from others also, it is shown that alcohol seldom induces permanent instability if the habit of drinking is given up. I do not include here that numerous class of cases where during infancy convulsions have been present, and where they have developed into confirmed epilepsy as the result of alcoholism afterwards. In

the cases reported both patients were over 30 years of age, and both had always enjoyed good health, never having had convulsions during infancy. We have to do with an acute dissolution of the centres and not with a permanent disability. No doubt if the habit of drinking is continued at short intervals for a lengthened period the centres become permanently unstable, and then we have a state not different from that we find in ordinary epileptic states.

### THE TREATMENT.

The first and most important indication to fulfill in the treatment of epilepsy is to endeavor to diminish that instability of the cerebral cells which in all confirmed cases of this disease is present to a greater or less extent. It is especially necessary that this should be before us while the disease is not as yet confirmed. By diligent attention to this indication there is no doubt that many children might be saved from becoming epileptics. In from 10 to 15 per cent. of epileptics the fits have begun in infancy, and there can be no question that careful treatment of the recurring convulsions of childhood might greatly diminish this proportion. To notice the apathy and indifference of patients as I have several times in such cases is distressing. A very great responsibility devolves on the medical attendant in these cases. The time for treatment is before the cells have acquired the vicious habit of unduly discharging. The influence of habit as related to the cells of the cerebral cortex is of paramount importance in the treatment of epilepsy. Nervous tissue, above all other tissues, is prone to easily acquire and retain organic memories. Tissues are resistive to disease in proportion to their maturity, and as the tissues of the cerebral cortex are the last of all to reach complete functional power, it follows that they are longer exposed to injurious influences. This is the reason why epilepsy may not show itself for a number of years. It is comparatively rare for epilepsy to originate after the 30th year. Fully 90 per cent. of cases begin before the 25th year. This period may be taken as about the time when the cells of the cortex have reached their maturity. The slow development of

the cerebral cortex in its functional parts at least has an important bearing on the treatment of its disordered states. Dr. Clouston says\* : " The unique fact about the nerve cell is the extreme slowness with which it develops after its full bulk has been attained. In this it differs from any and every other tissue. We may say that after most of the nerve cells of the brain have attained their proper shape and full size, it takes the enormous time of 18 or 19 years to attain such functional perfection as they are to arrive at. This striking fact of such extreme slowness of development of complete function no doubt shows, as no other fact could, the complexity and importance of the functions which the brain tissue subserve. . . . It is during this long period of gradual coming to perfection of the nerve cell that its hereditary influences for good or for evil come most into visible play. No doubt they exist before, but as yet we have no certain means of detecting them."

If we are to attack epilepsy successfully, we must go to the root of the trouble, and that is the unstable nerve cells. Really the foundation treatment of this disease is nothing more or less than an education of the cerebral cells.

Now we must for a moment consider the means through which the metabolism of these structures is carried on. The way in which they receive impressions is two-fold—(1) Through the blood, and (2) through the countless thousands upon thousands of afferent tracts which connects the cortex with the entire peripheral system. The endless changes taking place in the world about us are being constantly felt, and are ever constantly influencing for good or for evil our higher centres. There is no doubt that the functional power of the cerebral cells is more influenced by the sense impressions than it is by the chemical changes carried on through the influence of the blood. Both, of course, are necessary. Advantage should be taken of the preponderating influence of sense impressions on cerebral metabolism.

For some time I have been convinced of the importance of removing a young epileptic patient from his old surroundings.

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\* Morison Lectures, Edinburgh Medical Journal, January, 1891.

What can be worse for such a patient than to be brought into constant contact with those who are probably of the same nervous organization as himself? I had a case illustrating this in a very striking manner. A girl aged 12, whose mother, although healthy, was an excitable, irresolute, nervous woman, had recurring epileptic attacks for several years. Owing to an accidental circumstance the child was away from home for upwards of a year, and during the latter ten months of that period she was free from fits. On returning home they recurred with greater frequency than before. The child, of her own accord, desired to go back where she had been visiting, and with the result that she again improved. Now although this is only one case, it teaches us something useful—viz., in the treatment of these cases the environment of the patient is of great importance. It can be used as a means of educating the nerve centres. The many ways in which the environment of the patient can be influenced, and through it the metabolism of the cerebral centres, are too numerous to refer to. I will here only mention one other. It is well known that certain people have one special sense developed inordinately—developed at the expense of the other senses. In some, for instance, the hearing is acute, while the sight is dull. As frequently the converse is true. The nearer the different sense centres in the brain come to the physiological norm, the less likely are we to have unbalanced mechanisms. When certain areas are inordinately acute, we have an unbalanced state; and by careful training I have no doubt much might be done in the direction of bringing about a more perfectly balanced afferent system. It is not my intention to deal to-night with the connection of ocular defects and certain ovarian and uterine operations as methods of treating epilepsy.

Ever since the treatment of epilepsy by the different bromides has become the general practice, it has become with most of us a mere matter of routine to give these drugs day after day and month after month, paying but little heed to the many other ways which, individually, are not of great moment, but when taken together are of the greatest possible importance. It will no doubt appear to many to be very heterodox to question the great



utility of the bromide treatment. That it does good in many cases, that in some cases it is indispensable I freely grant; but I as firmly believe that it does harm sometimes, and that it can be entirely dispensed with to the advantage of the patient in certain cases. I will first refer to the pharmacology of the drug. How does pot. bromide act in epilepsy? Some still maintain that it is through the blood-vessels, but there is no foundation whatever for that view. The experiments of Albertini have, I think, proved conclusively that it acts simply by depressing the motor activity of the cerebral cortex. Everything that we know of the action of the drug supports the experimental investigations referred to. Now there can be no question that an agent that depresses the reflex activity of the nerve centres cannot fulfill the first and most important indication in the treatment of epilepsy, *i.e.*, increasing the stability of the nerve centres. To neglect this indication is to neglect the first step in the proper treatment. Where the bromides are specially called for and operative are those frequently recurring attacks, say one or two weekly. Here we can with these agents break the habit—in other words, lessen the unconscious memory of the disease. The dose and mode of administration of the bromides is a matter of some importance. As to the quantity necessary, this, as is well known, varies greatly. As a rule, it is seldom advisable to order more than one drachm in the twenty-four hours; the smallest quantity sufficient to break the habit is the best. Formerly I followed the usual practice of giving the bromides after meals, but being influenced by the writings of Seguin, who strongly recommends that it be administered before meals in a weak alkaline water, I followed this practice for some time, but some recent experiences have taught me to rely on the usual method of administration after meals. The only gain in giving an agent on an empty stomach is that it enters the blood more rapidly. Now in these cases there is no necessity for this rapid absorption, and further, I feel satisfied that it is much more apt to disorder the functions of the stomach when given before meals.

Another important point is the frequency of administration. The object aimed at is to keep a sufficient quantity of the drug

in the circulation at all times to keep up the depressant action on the nerve centres. If the fits recur only during the night or morning, one dose in the twenty-four hours of 5ss or ʒi is all that is necessary. If they come at irregular intervals in the day it is well to give the bromide twice in the twenty-four hours—after the evening meal and after breakfast. As the elimination is not very rapid, being seldom complete even within twenty-four hours, we may feel assured that two doses in the twenty-four are all sufficient in any case. The elimination is, of course, more rapid during the day than during the night. It is never necessary to administer it three times in the twenty-four hours. If given too frequently we are certain soon to have bromism with its disagreeable consequences. We have a cumulative action; *i.e.*, more is taken up than can be eliminated. To prevent the disagreeable effects of a bromide on the skin, we have in arsenic a very efficient remedy.

As already mentioned, there is a class of cases of epilepsy better treated without bromides. It is that class where the fits recur at considerable intervals, say once every three or four months, or even less frequently. It has been well, and we believe truly, said by Broadbent\* : “The epileptic who enjoys a certain degree of immunity from attacks in virtue of large doses of bromide is on a lower platform than one who obtains such immunity by means which raise the tone of his nervous system, and the immunity may be purchased too dearly, not to speak of the disfigurement produced by the bromide rash, or of the derangement of digestion, or of the anæmia, which are common results. I have seen patients reduced to a condition scarcely distinguishable from general paralysis by the bromides, and all minor degrees of intellectual and nervous debasement, from which condition they have been rescued by discontinuing the drug and adopting a different treatment, the fits in several instances also ceasing. The legitimate use of bromides I conceive to be for the purpose of palliation, of staving off attacks which have become too frequent, and so of gaining time for a study of the peculiarities of the case, its true causation and ultimate pathology, and for the application of remedial measures which

\* The Pulse, p. 299.

shall go to the root of the disease. When the fits are separated by months, I can see nothing but harm in giving bromides regularly. If, in such a case, an exciting cause can be identified, bromides can be usefully employed to parry its influence and avert the attack; but no such identification is possible if the bromides are being taken constantly. Only by careful inquiry into the antecedent circumstances of each fit can this be done, and attention to the administration of the drug take the place of attention to other matters."

A great many other agents besides the bromides have been used with alleged success in the treatment of epilepsy. I have had very little experience with any of them. Borax in several cases failed utterly. There are good reasons for believing that a combination of a bromide with digitalis may be more effective in certain cases than when the bromide is given alone. Gowers considers that this combination is especially valuable in night epilepsies. It is altogether likely that the action of digitalis for good is effected through the circulation. It is not uncommon to find the epilepsies of adolescence to be attended with a lowered blood-pressure, and from what we know of the action of digitalis on the central and peripheral nervous system it appears very probable that its action is through the circulation and not through the nervous system. A combination of the bromides with atropine is said sometimes to succeed. On physiological grounds I should require positive proof of this statement before resorting to this treatment. Atropine has a stimulating action on the cerebral cortex in both the lower animals and man, and the combination of it with a bromide is, as far as I can see, the union of agents pharmacologically incompatible. I have had no experience of the treatment of epilepsy with nitro-glycerine or simulo.

Long ago it was the custom to recommend epileptics to abstain from nitrogenous food. A recent writer (Dr. Jno. Ferguson) has with great ingenuity insisted on the importance of attending to this. He even goes so far as to say that the treatment of epilepsy is mainly dietetic. This is, however, a very partial view of this great and deep subject. The diet should, of course, be carefully attended to, but not mainly in the direction referred

to. As a matter of fact, experience does not confirm the statement that nitrogenous food is injurious. That it may even be very necessary is more than probable in the great number of cases of essential epilepsy during adolescence, for it is here that we meet with the cases attended with low blood-pressure. For such cases a nitrogenous diet is certainly indicated on physiological grounds, and I believe experience confirms this. In cases of senile epilepsy, it is not uncommon to find high tension, and here it may be very necessary to curtail or deprive the patient altogether of nitrogenous food.

In the present paper I do not touch on the subject of epilepsies from gross cerebral changes. I have met with only one case where surgical measures were of great benefit. Two years ago Dr. Roddick operated on a case in the Montreal General Hospital with very gratifying results.

Although the treatment of epilepsy with drugs and modification of the diet in certain cases is of great importance, neither are of prime importance. The foundation treatment of epilepsy is certainly not a drug treatment, neither is it mainly a dietetic treatment. It consists essentially in the proper training of the ganglion cells—it is, in the broad sense of that term, an education of the ganglion cells and attention to all those general measures which conduce to the proper performance of function in every organ and tissue of the body.

In his description of the functions of the cerebral convolutions, Wesley Mills says\* : “ The quality or functional capacity of the individual elements, especially of the cortical cells, both as the result of innate, inherited powers, and as altered by education, is, of course, a matter of great importance. By education we mean all those influences that have been brought to bear upon these cells from without, of whatever kind. Apart, too, from all these considerations, it must be clear that what any set of cells can accomplish, be they brain cells or other, must depend largely upon their capacity to appropriate nourishment, which in turn will be modified by blood supply, the behaviour of excreting organs, etc. The brain and other parts are so mutu-

\* Text-book of Animal Physiology.

ally dependant that they cannot be understood by any isolated consideration of the one or the other. It is not to be supposed that an individual with a poor respiratory, circulatory and digestive system, no matter what the possibilities of his cerebrum, can ever rank with an organism admirably balanced in these respects."

Those broad general principles so ably enunciated in that quotation are especially applicable to the treatment of the neuroses.

It may be considered by some present that I have wandered too far into the realms of psychology in the treatment of epilepsy, but let me remind any that may think so that our present knowledge of this disease has been mainly acquired through the studies of the cerebral functions. The education of the nervous system is a subject of the greatest importance to every practising physician, and it is only by an attentive study of each individual case in all its details by the physician that a proper system of education can be carried out. It is the physician's duty to be able to direct the particular ways in which the education of his patient should be carried on.

For every case requires its own particular training. "One of the great advances in modern education is that it recognizes that all are not cast in the same mould, and therefore cannot rationally be subjected to exactly the same kind of training; that what is suited to one is utterly unfitted to another, and that it is more than folly to submit all to one rigid, fixed mode of treatment."\*

By following these lines of treatment more cases than at present will be prevented from drifting into hopeless chronicity and incurability.

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\* Campbell: Flushing and Morbid Blushing, p. 217.

## Retrospect Department.

### QUARTERLY RETROSPECT OF MEDICINE.

By R. L. MACDONNELL, M.D.,

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#### APPENDICITIS.

At a recent meeting of the Medical Society of the State of New York this important subject again came under discussion.

Dr. Horman Mynter, of Buffalo, to whom had been assigned the expounding of the gross pathology of the disease, said that he had followed in this respect the nomenclature of Professor With, of Copenhagen, who had described three forms of appendicitis: 1. *Peritonitis appendicularis adhesiva*, in which the ulceration in the appendix went so deep that the peritoneal covering was affected and adhesions were formed. 2. *Peritonitis appendicularis localis*, characterized by local peritonitis and abscess. 3. *Peritonitis appendicularis universalis*, in which there was diffuse peritonitis by perforation of the peritoneal cavity. The question as to whether abscesses which formed were intra or extraperitoneal had been debated upon. He saw no reason for any disagreement upon this point. Both the cæcum and appendix were, according to Bull and others, always completely invested by peritonæum. An abscess starting in the appendix must necessarily at the onset be intraperitoneal, limited by adhesions. If the adhesions were strong and exudations continued to be deposited so that the perforation into the abdominal cavity was prevented, the parietal peritonæum might become perforated and the pus was then in the retroperitoneal tissue—*i.e.*, in the iliac fossa—and constituted an extraperitoneal abscess, and, if not opened by an extraperitoneal incision above Poupart's ligament, might perforate elsewhere, as, for instance, into the rectum, the ischio rectal fossa or backward.

Dr. Charles McBurney gave an elaborate review of his own practical experience in treating the disease surgically, and the deductions which he had drawn therefrom as to the indications for early laparotomy. He emphasized the fact that the earliest possible diagnosis and frequent examination of the

patient might properly be demanded of every physician and surgeon who was called to attend a case of appendicitis. Clearly defined rules, which would guide safely in all instances to a decision as to when a case of appendicitis might be safely treated conservatively, could not be laid down. A general description often, but not always, applicable was the best substitute he could offer. The diagnosis having been made in a given case, the treatment should be directed to insuring absolute rest and controlling periperistalsis and retroperistalsis. As a local application over the cæcum and appendix, cold was by far the best. Anodynes should not be given to the point of masking the symptoms, and were possibly better avoided altogether. If nausea disappeared within twelve hours, if at the end of the same period tenderness on pressure had not increased, if the temperature remained normal or had not risen to 100° F. in the mouth, if the pulse was not accelerated or but slightly so, and if the patient moved in bed with ease, the case was probably a mild one, destined to recovery. If at the end of twelve hours more this state of things still obtained, the chance of favorable ending was enhanced. If during the succeeding two days no tumor had formed and the symptoms had all improved, or some had improved while others had remained stationary, the case might be considered as practically safe, although complete rest should be enjoined. Again, in other cases the temperature would be higher, the pulse full, and the nausea considerable; still these symptoms might not increase in severity, and the indications for conservative treatment would be clear. In these latter cases a short interval of twelve hours or more would usually develop signs of improvement, or of the cessation of advance, or of the advance of the symptoms. If signs of improvement had appeared, medical treatment would be continued. If the symptoms had merely ceased to advance, the decision would be postponed till another visit, to be made after a short interval, the medical treatment being in the meantime continued. If the symptoms had been more marked, then the question of immediate operation arose. In all of those cases which showed well-marked signs of increasing disease, the question of an operation should be deliberately and carefully discussed, and in the opinion of the speaker, the operation should be done. It was not best to

wait for strong evidence of perforation or peritonitis. It was not satisfactory to wait till the pulse became rapid and weak and the respiration anxious. No one could name the signs of impending perforation. When spreading peritonitis was discoverable, the peritonitis has already spread. If the peritonitis had passed beyond the wall of an abscess, then the abscess had already ruptured. If marked distention of the abdomen was waited for, section might demonstrate septic paresis of the gut, a condition from which the speaker had never known a patient to recover. Such indications were conditions which it would be wiser to anticipate. It might be laid down as a rule, with few exceptions, that the indications of advancing disease could be clearly made out by the end of thirty-six hours, provided that the diagnosis had been made early and followed up by several careful examinations. Advancing disease with significant symptoms at this period offered the necessary indications for operation. The speaker then more minutely considered the various symptoms, both subtle and pronounced, which should be observed by physician and surgeon as bearing upon the important question of operative interference.

Dr. W. W. Keen, of Philadelphia, continued the discussion of the foregoing question under five heads. 1. Appendicitis of a mild form without formation of abscess and terminating in resolution. 2. Perforative appendicitis followed by general peritonitis. This class he divided into severe, early, fulminating peritonitis, and an apparently mild peritonitis suddenly bursting out into general peritonitis from perforation of the appendix or rupture of an abscess. 3. Cases of abscess formation in which evacuation of the pus was effected either by operation, external rupture, or rupture into a hollow viscus. In these cases resolution or death usually took place in from two to four weeks. 4. Abscess formation took place slowly, the chronicity continuing for weeks or months or even a year before discharge took place. 5. Cases of recurrent appendicitis. The speaker held the opinion that of the milder forms examination would demonstrate that about one-third of all adults had been affected by one or more attacks. The position taken by Dr. Keen was substantially that of the previous speaker—that conservative measures were admissible only up to a certain point, beyond which operative procedures offered



most encouraging results, the prospects diminishing in proportion to the delay.—(*N. Y. Medical Journal*, Feb. 14th, 1891.)

*An Instructive Case of Appendicitis.*—In discussing the advisability of an abdominal section, the question as to whether general peritonitis is present is very important. There seems to be no means of recognizing the presence of this serious complication. Within my own experience, lately, two cases have been observed where symptoms of general peritonitis were present, though in both instances the abdominal section enabled us to say it was absent. It would appear from an interesting case reported by Jastrowitz\* that a case may run on to a fatal termination without there being any general peritonitis, though the symptoms of that dangerous condition may be present. The patient was a woman who, at the time when cholera was epidemic in Spain, was suddenly attacked with severe abdominal pain and all the symptoms of appendicitis. She became collapsed and cyanotic; there were severe attacks of vomiting, diarrhœa, cramps, &c. Death rapidly supervened, and at the autopsy a perforation of the vermiform appendix was found, which had been produced by a coprolith the size of a date stone. There was no generalized peritoneal lesion.

#### THE BARKING COUGH OF PUBERTY.

At a meeting of the Medical Society of London, held Dec-15th, 1890, Sir Andrew Clark read a paper on this subject. With the aid of the head-master of Westminster, he succeeded in finding a Latin name for the affection, to wit, "Cynobex Hebetis." The paper consisted of a number of records of cases under his observatton, where incoercible convulsive cough had been present in boys or girls. The first one of his cases presented the following history: The patient was a boy of 14, who belonged to a very nervous family and was himself nervous. Whilst under examination he was odd in his movements and restless in manner. The lad was delicate, but there was no sign of any special lesion. On leaving the room the lad was startled by a sudden noise and began to cough, and had a paroxysm of coughing which lasted over a minute. The paroxysm consisted of dry, clanging, convulsive coughs, varying in intensity and duration, broken into irregular bars and

\* At the meeting of the Berlin Medical Society of the 26th Jan., 1891.

phrases, and resembling at one time the barking, at another time the howling of a dog. During the continuance of the paroxysm the patient appeared to be much distressed; his face was swollen and faintly livid; the eyeballs became prominent and congested; the body bent forwards; was shaken by the violence of coughing, and the hands convulsively clutched his clothes. At the end of the paroxysm the patient appeared to be dazed and was somewhat giddy. Recovering himself in a few minutes, he passed a quantity of limpid urine, and the storm was at an end. The malady lasted thirteen months and then slowly subsided.

The other cases present a similar history. In one a cure followed a fright. An operation upon the throat was threatened and the cough ceased.

The greater number of cases occur in girls. The cough is not an ordinary nervous cough; it is not the ordinary cough of local irritation, of related pathological changes, of reflex action, of pneumogastric disturbance, or of mere hysterical disorder; but possessed of certain distinguishing characteristics, existing always in the same general environment, and occurring almost exclusively within the range of those physical and psychical changes which mark the advent of puberty, and accompany the final evolution of sex, it has a well defined individuality, and claims even as one of the habit-spasms so admirably described by Gowers, the right of separate consideration and naming. Notwithstanding the fact that the disease obtains but scanty mention in English medical literature, its existence has long been known to practised clinical observers. There are no just grounds for regarding it as a new disease. But taking all the circumstances into consideration we cannot justly doubt that this barking cough of puberty "*(cynobex hebetis pubertatis tussis canina)*" is a malady of nervous origin, character, course and issues. The prognosis is favourable. In over twenty cases of which the reader of the paper had direct knowledge the course, although usually tedious and somewhat prolonged, has ended eventually in complete recovery.

Sir Andrew Clark does not believe that he has been successful in cutting short the duration of the malady. Nevertheless he is certain that by appropriate regimen, by sedative appli-

cations to the interior of the throat, and by the administration of certain internal remedies, he has succeeded in restraining the cough within harmless limits, and in guiding the malady to a somewhat speedier issue than otherwise it would have reached. With regard to regimen all the patients had previously been overfed, and alcoholics had been too freely used. A liberal but simple dietary, abstinence from alcohol, cold or tepid sponging, warm but not too warm clothing, active exercise, early hours and general discipline.

In the discussion which followed the reading of the paper Dr. Althaus stated his opinion that a similar cough was met with in some cases of locomotor ataxy. Dr. Gowers had seen a few cases of the kind, though less severe than those described. They fell, according to him, into three classes: (1) Those in girls, associated with other nervous symptoms and classed as hysterical (in this connection it should be remembered that *globus hystericus* was a respiratory phenomenon of central origin, and the convulsive cough under discussion was probably a severe motor analogue of *globus*); (2) in boys, usually more severe—in some they appeared to be instances of local habit spasm of shifting character, and resembling true chorea; and (3) the symptom existed alone and was associated with habits of masturbation; it usually quickly recovered when that habit was abandoned. He agreed that the cough, as such, was *sui generis* and differed from the ataxic cough.

Dr. Norman Kerr referred to a case in a girl, aged fourteen, in whom cough was incessant and accompanied with giddiness, hæmoptysis, and a condition of trance. The affection disappeared in three months.

Dr. Stephen Mackenzie had found it to be more frequent before puberty; one case occurred in a boy aged eleven, and several between the ages of ten and fourteen. The condition was closely allied to hysteria or habit spasm, and the lower centres became active owing to a want of inhibitory control. The treatment, therefore, he considered should be moral rather than medical, and he adopted two plans: either to ignore the trouble or to frighten or punish the patients, as by cold shower baths and strong galvanism. The majority of cases had been in boys.

Dr. Felix Semon said that in Gottstein's work on Diseases of the Larynx, many similar cases would be found recorded.

## THE RELATION OF SYPHILIS TO TABES DORSALIS.

Dr. Dawson F. D. Turner records a very interesting case (*Lancet*, Nov. 1st, 1890) bearing upon this relation. A married couple, now beyond middle life, suffered some years ago severely from syphilis, and the woman had several abortions before giving birth to a living child. Both the man and the woman have developed locomotor ataxy in varying degrees. One of the children has aortic regurgitation, stammers, cannot write steadily, suffers from twitchings of the voluntary muscles and from nystagmus when asked to fix the eyes upon an object, but has no ataxia or loss of knee-jerk.

## HYSTERIA AND ORGANIC DISEASE.

In a recent number of the *Charité Annalen* (quoted in *Lancet*, Feb. 7, 1891) the details of a very instructive case in this relation are recorded. The patient was a woman of 31, who, after an attack of typhus fever at the age of 21, began to suffer from a gradually increasing anæsthesia, concentric contraction of visual fields, colour blindness and disturbance of special senses. The patellar reflexes were present. The manner of the patient was marked by apathy and sleep was induced by merely closing her eyes. There was much emaciation, the apathy became still more marked, and finally before death, she was delirious with hallucinations and delusions. The case was regarded clinically as one of hysteria with subsequent mental disturbance, but at the necropsy an astonishing condition of things was found. There was tubercle in the lungs, the larynx, and the intestines, degeneration in the posterior columns of the cord, and myelitis in those columns in the cervical region. Such a condition with retained knee-jerk is certainly unusual. But there were also changes in Clarke's column, a congenital fissure in the medulla oblongata, and degeneration in the nuclei of the cranial nerves, the peripheral nerves showing no change. That so many changes in the nervous system should be present without obtruding themselves in such a way as to make possible a diagnosis other than the unsatisfactory one of hysteria is certainly strange. The case is of great importance, as affording a warning that hysteria is not to be diagnosed without the utmost care in excluding every possible form of organic disease.

## THE RELATION OF ASTHMA TO OTHER DISEASES.

At the Medical Society of London (Nov. 10th, 1890), Dr. Samuel West read a paper on the above subject. The word "asthma" was used in its strictest sense. It stands in no relation to affection of the lungs, other than to emphysema and chronic bronchitis, and it usually disappeared in patients who became affected with phthisis. True cardiac asthma was extremely rare, was most difficult to treat, and had no connection with angina pectoris. Referring to the connection of asthma to diseases of the stomach, he held that the cause of the asthma was not due to irritation of the gastric mucous membrane itself, but to the absorption and circulation in the blood of some product of an irritant nature. Cases of so-called "asthma verminosum" probably were similarly explicable. Dyspnoea was common in affections of the kidney, but true asthma was very rare. In uræmic conditions respiratory disturbances were common, but they more nearly resembled those seen in diabetic dyspnoea. Illustrations of the occurrence of asthma in association with gout and lead poisoning were then given. In 1872 the connexion of asthma with certain affections of the nose was first established, and it seemed to be proved that reflex neuroses sometimes arose in connexion with such lesions as polypus, chronic rhinitis, paroxysmal sneezing, etc. The subject has been approached in two ways: a series of cases of asthma having been taken, and the occurrence of nasal affection noted, and then a series of nasal affections in which asthma had been present. There was some slight connexion between the two, but it was by no means constant. In some cases, however, the connexion seemed exceptionally strong, instances being quoted where the growth of nasal polypi was associated with the onset of asthma, which latter disappeared upon the removal of the growths. He regarded hay asthma as a variety of the true affection, and he pointed out that the association of asthma with pharyngeal disease was very rare. Many affections of the neck and mediastinum were met with in which asthma occurred, but it was impossible here to dissociate the effects of pressure. The association of asthma with disease of the skin appears to be only accidental, or perhaps both were the joint effects of a common cause. A sufficient number of cases of asthma in asso-

ciation with cerebral affections had been recorded to make it more than a coincidence. It has been observed, though rarely to alternate with insanity and with hysteria. Like epilepsy it appeared to depend on an unstable condition of the nervous centres, and explosion could therefore be excited reflexly by a number of causes. He adopted the hypothesis that there was an asthma centre in the medulla, which could be acted on from above by emotion, various psychoses, epilepsy and some cerebral lesions; in the centre itself by uræmia and dyspepsia; from below by disturbance of the special senses, such as of the olfactory and optic nerves, by stimulation of the nerves of common sensation, as of the fifth in the face, and by cutaneous irritant rashes. It could be acted on also by the branches of the pneumogastric distributed to the neck, thorax heart, lungs and stomach, and by the sympathetic through its branches from the intestines, kidney and uterus. It affected many sets of muscles other than those proper to the bronchi, and therefore could only be of central origin. In conclusion he regarded asthma as a reflex neurosis, producing spasm of the bronchi and of the diaphragm, associated with bronchial vaso-motor disturbance, and an unstable condition of the respiratory centre. It so closely resembled epilepsy that Hughlings Jackson had defined it as a "respiratory convulsion."

In the ensuing discussion Dr. Sémon said that the more he studied the relation of nasal affections to asthma the more obscure it appeared to him. If an asthmatic patient presented himself who had nasal trouble but no other discoverable local lesion it was impossible to assure him that the curing of the nasal disease would relieve the asthma, or still more cause it to disappear. He advised patients, as a rule, to leave the nose alone, because in the majority of instances treatment would not be successful, but as some cases were relieved by treatment, it was legitimate to try it as an experiment.

## QUARTERLY RETROSPECT OF SURGERY.

BY FRANCIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.

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*Aneurysm: its Cure by inducing the formation of White Thrombi within the Sac.*—In an address delivered before the Midland Medical Society, Dr. W. Macewen (*Lancet*, Nov. 22nd, 1890) says the attempts to produce coagulation in aneurysmal sacs by the introduction of foreign bodies into their interior have, as a rule, failed. For the formation of red thrombi the blood must be at rest, and this is an impossibility in an aneurysm at the root of the neck unless the sac be occluded, and Dr. Macewen believes that in these cases where success has attended the efforts of the surgeon in endeavoring to promote the formation of a thrombus, that it is the white thrombus that has formed from the first. The red easily breaks down, whilst the white is prone to undergo replacement by vascularised fibrous tissue, and is seldom subject to the various forms of softening which affect red thrombi. White thrombi form in the interior of the vessel at a spot where irritation has been induced, and from which the endothelium has been removed, there the leucocytes become firmly adherent to the vessel, and tend to grow by superimposed accretions, so that a partial thrombus forms and may proceed to complete occlusion. The method of producing white thrombi recommended by Dr. Macewen is as follows: The wall of the aneurysm should be irritated in such a way as to induce infiltration of the parietes with leucocytes and a segregation of these from the blood stream at the point of irritation. The irritation should be just sufficient to set up reparative exudation. To promote rapid formation of white thrombus, it is better to act on the wall of the aneurysm so as to produce uniform irritation over its whole surface or to stimulate as many points in its interior as possible, and in this way many foci will throw out white thrombi, and at each such place the vessel is being strengthened and prevented from further dilation. The instrument employed is a pin long enough to transfix the aneurysm and permit of manipulation within it. It should be very fine and taper to the end like a sewing needle, and have

a round head. The calibre of the pins should be of various sizes for the different aneurysms, as some have tougher and thicker coats than others and require a stronger pin. The pin should be finely polished so as to the more easily render it aseptic. Before operating, the skin over the aneurysm should be carefully cleansed and rendered aseptic. The aseptic pin should then penetrate the sac and pass through its cavity until it comes in contact with the opposite side; it ought to touch it and no more. Then the pin should be either moved over the surface of the inner wall so as to irritate its surface, or the same object may be effected by allowing the impulse of the blood current to play on the very thin pin. After acting for ten minutes in one part, then, without removing the pin, its point should be shifted to another until the greater part of the internal surface has been touched. In some cases it may be necessary to puncture more than one place. While in the aneurysm the pin should be surrounded by aseptic gauze or moistened with an antiseptic solution, and when it is withdrawn the part should be dressed with a moist antiseptic dressing. It should not be left in more than 48 hours, and in some cases more effect is produced in 24–36 hours. In very large aneurysms several pins may be introduced. Dr. Macewen reports four cases treated in this way. In two there was absolute consolidation and hence cure, one being femoral, the patient dying of carcinoma of the tongue thirteen months after the sac was examined; the second case was one of intrathoracic aneurysm in a woman aged 47. The function of arm was restored and complete consolidation took place. In a third case of aneurysm of the abdominal aorta, the treatment was interrupted before complete consolidation took place, the man returning to his work; he was alive  $2\frac{1}{2}$  years after.

This method of treatment is a simple one, but only suitable for uncomplicated cases. It is a distinct advance in the treatment of cases which are often apparently hopeless. The greatest care should be taken to have all the parts aseptic, as if septic matter be introduced, disastrous results would be very apt to follow. The result of this treatment in the hands of other surgeons will be anxiously looked for.



*Another New Method for the Relief of Hernia.*—Dr. E. Kassini of Padua has devised a new operation for the radical cure of hernia. (*N. Y. Medical Record*, Jan. 17th, 1891.) He endeavors to restore the inguinal canal to its normal shape, making it run as in health—obliquely. The aponeurosis of the external oblique overlying the inguinal canal and the pillars of the external ring are first exposed, and after all bleeding has been arrested, the aponeurosis is incised over the whole course of the canal, and is dissected out from the contiguous structures so as to form two flaps, which are folded back to expose the underlying tissues. The spermatic cord is now drawn out and separated from the neck of the sac as far back as may be; then the sac is opened, adhesions broken up, and omentum, if any excised. The hernia being reduced, the neck of the sac is twisted and ligated, and the portion below the ligature cut off. Next, the triple layer formed by the internal oblique and transversalis and Scarpa's fascia (conjoined tendon?) is dissected away from the aponeurosis, and adipose layer above and below the outer margin of the rectus muscle brought down and attached by interrupted silk sutures to the posterior part of Poupart's ligament, forming thus the posterior wall of the spermatic canal. The divided portions of the external oblique aponeurosis are brought together by sutures and the wound dressed antiseptically. A new canal is formed from the spermatic cord by this operation. Dr. Bassini publishes 251 cases he has treated in this way, and 108 remained cured from 1-4½ years; 131 cases treated from a month to a year before the tables were compiled remained well; 4 cases had been lost sight of, and in only 7 was there any appearance of a return of the hernia. Such results as reported by Professor Bassini have, as yet, been attained by no other surgeon but Macewen of Glasgow. As a rule, these operations for the radical cure of hernia are more successful in the hands of the originators than of those others who follow them; remarkably skillful surgeons have not had such success with Macewen's operations as he has had himself. Why, it is difficult to say.

*The Treatment of Gangrenous Hernia.*—There is still much

diversity of opinion as to the proper treatment of gangrenous bowel, or bowel suspected to be gangrenous, when found in a case of strangulated hernia. Should the intestine be resected, or should the bowel be anchored near the wound or should it be left outside the abdomen? The latter method is adopted by many, but it has its disadvantages, such as the occurrence of artificial anus, the subsequent appearance of a large hernia owing to the very free incision it was necessary to make to enable peristalsis to go on undisturbed. Dr. Poulsen of Copenhagen (*Hospitals Tidend.*, R. 3, Bd. 7) has collected 23 cases of primary resection with 5 deaths; but this does not give the correct mortality, as many unsuccessful cases of resection of the bowel are unpublished, and he is of opinion that the mortality is much greater. He proposes drawing out the gangrenous intestine after dividing the sac up to the internal ring, and dividing the abdominal wall some two or three centimetres; healthy gut to the amount of several centimetres is also drawn out; the peritoneum is stitched to the skin and the gut fixed by silk sutures, so that the two tubes are close together. The gangrenous sac is removed, but not the gut; the cavity is then packed with iodoform gauze, which is also pushed into the mouth of the hernial sac. Two days later the extracted coil of intestine is removed by Paquelin's cautery, and later enterotomy, followed by enteroplasty, is performed.

Dr. Hæpferich of Greifswald (*Beilage zum Centralblatt f. Chirurgie*, No. 25, 1890) proposes to establish intestinal anastomosis between that part of intestine above the gangrenous gut and the part below it. When anastomosis is completed, the intestine which has been drawn outside the ring for operation is replaced, but the part threatened with gangrene is allowed to remain outside the hernial opening. If gangrene occurs, it does not matter, as peristalsis is obtained from the first by means of the anastomosis. The author says the operation is easy, and should be performed with sutures, opposite the attachment of the mesentery, to the extent of about 4 cm. The operation is exactly like gastro-enterostomy; he prefers this method to Scnn's plates, as he fears that the bowel, in consequence of the reduced con-

dition, might be further endangered by the pressure of the rings. Should the gut become gangrenous, it can easily be resected without danger, and because of the anastomosis the abdominal wound readily closes. Should the intestine retain its vitality, then no harm is done, as the bowel can easily be separated from its recent adhesions and returned into the abdominal cavity. Dr. Helderich has performed this operation in two cases of threatened gangrene; one recovered, the other died of collapse. It is questionable whether this operation would be of use in actual gangrene of the gut.—(Quoted in *Annals of Surgery*, Feb. '91.)

At a meeting of the London Medical Society, held Feb. 16th, 1891, Mr. Stephen Paget exhibited a man, aged 24, on whom he had operated for strangulated hernia. Finding the gut gangrenous, he fastened it outside the abdomen and opened it at once. The man did well, the bowel skinning over and receding until only a minute fistulous opening was left. Mr. Paget said it was not justifiable to resect the bowel at once, or to make an anastomosis as suggested by Helderich. Mr. Allingham related a case where he had treated the gangrenous bowel in a like manner, with the result that when the sloughs came away the wound healed, leaving a fistulous opening which had since completely closed. Mr. Ballance also advocated this method of treatment.

This method is one that every practitioner can adopt without causing any more risk to the patient. It is not every practitioner who is able at a moment's notice to resect a bowel or perform anastomosis. It is all very well for hospital surgeons who have all the necessary appliances and assistance at hand to recommend resection, but the country doctor who is more likely to see these cases had much better treat the gangrenous gut by opening and leaving it outside; he will give his patient a much better chance by this simple procedure than by attempting complicated and difficult intestinal operations, which even in the most skilled hands are often unsuccessful.

W. H. Bennet (*Lancet*, Oct. 18th, 1890), in a clinical lecture *On the Management of Damaged Bowel in Strangulated Hernia*, delivered at St. George's Hospital, reports three cases

in which there was damaged bowel, and advises the following treatment: free division of the stricture, the return of the intestine just inside the abdomen with as little pressure as possible after thorough antiseptic cleansing; the careful adjustment of a drainage-tube, having a diameter of not less than half an inch, in such a way that its inner extremity may be almost in contact with the damaged bowel. He considers resection very rarely necessary, and a fæcal fistula very much to be preferred to an artificial anus.

*Treatment of Recent Cases of Strangulated Hernia by Aspiration.*—Dr. Hern (*Brit. Med. Jour.*, Feb. 7th, 1891) says that when he fails to reduce a strangulated hernia under chloroform by taxis, and there is great tension in the tumor, he reduces the tension by the use of a hypodermic syringe. He has done this on 32 occasions, and in 28 reduction was easily accomplished. Of the remaining four, three were subsequently operated on with one death, and the fourth refused further operation. He considers that the class of cases suitable for this procedure are recent cases (36–48 hours), and where friends refuse to submit to herniotomy.

*Radical Cure of Hernia in Children.*—Mr. R. W. Parker (*Brit. Med. Jour.*, Feb. 7th, 1891) describes the following operation which he has practised with success for years in hernia of children. “An incision about two inches long is made, the upper portion of which corresponds with the position of the external ring; the sac is thus exposed and is cleared of its looser and more external layers, then, after getting the spermatic cord well out of the way, the sac is pulled down as far as possible, and three or four stitches are put in, drawing the neck of the sac tightly together, but not strangulating it. The silk sutures are retained permanently *in situ* as long as possible. The neck of the sac is now allowed to retract beyond the pillars of the external ring, after which the pillars of the latter are sewn together and the wound closed. He prefers silk to any other suture, and boils it in a carbolic solution of 1–20.

*Operations by Prof. Billroth for Radical Cure of Hernia.*—These comprise (*Archiv f. Klin. Chirurgie*, Bd. xl., p. 491–555)

136 cases of inguinal, femoral and umbilical rupture in both sexes reported by Haidenthaller; 93 operations were performed on 89 persons, whilst in five instances alcohol was injected into the sac. The operation employed (Czerny's) consisted in ligaturing and removing the neck of the sac and uniting the deep and superficial parts of the wound by silk sutures. The mortality in 51 non-strangulated cases in 48 patients was 6.25 per cent., and the causes of death were entirely of septic origin. The result in most cases was a true radical cure, though occasionally the herniæ returned, in one case six years after the operation and in three cases after a lapse of five years. The cases in which alcohol was injected into the sac, though at first apparently cured, afterwards relapsed. Macewen's operation, which was employed in some cases, was not thought favorably of; the author considered it clumsy, complicated, and the free separation of the sac often led to its sloughing. He considered that the success of the operation depended on the stoutness of the silk employed and the length of time the edges of the wound could be held together.

*Surgical Tuberculosis Treated by Koch's Lymph.*—The hopes as to the efficiency of the injection of Koch's lymph in surgical tuberculosis have been rudely shattered by recent reports of cases from abroad and experience at home. Very few cases, so far, have been benefited, fewer, still, have been cured, whilst not a few have been distinctly injured by the treatment. In some, disease has been conveyed to distant parts, and in others the local disease has been aggravated rather than improved. Deaths have also occurred from its use, and most surgeons who have had much experience with it have come to the conclusion that the remedy is often a dangerous one, and must be used most cautiously and in selected cases. Perhaps recently the reaction from high hopes at first entertained has made the pendulum swing too much in the other direction, and before pronouncing upon its usefulness or uselessness time should be given to get the final results of the carefully conducted experiments with the lymph now going on in the various hospitals at home and abroad; still the fact remains that many able and thoughtful men have discontinued its use,

and others have, though still continuing to use it, nearly lost faith in it. Dr. Jas. Israel, at a meeting of the Berlin Medical Society, held on Jan. 21st, 1891, stated that he had had 24 cases of surgical tuberculosis under treatment by the lymph during 30-60 days. One case of hydrops articuli he pronounced cured; two cases ended fatally; five cases (one of lupus) remained absolutely uninfluenced by treatment, although there was general reaction there was not the slightest local change; six cases showed decided improvement; five showed none, two relapsed, and three became decidedly worse. He draws the following conclusions:—

(1) The remedy does not in all cases, even if we exclude caseous foci, exert an influence on tuberculous tissue.

(2) The remedy does not always produce necrosis, but sometimes inflammatory phenomenon also.

(3) The intensity of the local reaction bears no proportion to the intensity of the general reaction.

(4) The intensity of the local reaction is no criterion of the therapeutic effect. Good effect may be produced where the local reaction is feeble, and intense local reaction may be unaccompanied by any favorable therapeutic effect.

Jonathan Hutchinson, in a lecture delivered on *Lupus* on Jan. 27th, 1891, says that nothing that can be called a cure of lupus had yet been obtained in London, so that it seems unnecessary to ask the question if the cures are lasting. He also said that it had come to his knowledge that relapses occur very quickly. The patient taken to Berlin by Mr. Malcolm Morris and Dr. Pringle was for a time supposed to be almost cured; now his condition was almost as bad as before the operation. He says no doubt in many cases the fluid has done very great good, and no one can doubt that it possesses very great powers.

Dr. Thibierge (*Annales de Derm. et de Syph.*, Dec., 1890), after passing some time in Berlin, gives the results of his observations. He says at first it was an accepted fact that lupus cases were promptly cured, and cases were discharged, but after a time relapses were found to occur. The dose for lupus is relatively large, Koch advising 1 centigramme as an initial dose, and he had seen 40 milligrammes injected without apparent

harm. Intense local reaction usually follows often after 1 milligramme, when the crusts fall off, leaving a smooth, rose-red surface, but after all reaction has ceased. The gross appearances indicate lupus nodules still present; not a single case was seen cured even in appearance.

At the meeting of the Eerlin Medical Society, Jan. 12th, '91, Köhler reported that since October 11th, 1890, 59 cases had been treated at the Bardeleben clinic. Three had been discharged as cured, and one as improved. The cases of cure were inflammation of the elbow and fistula of the wrist joint, and one of acute coxitis in a girl aged 23. One case of hip-joint disease died after seven injections, and solitary tubercles were found in her brain.

Baum (*Deutsch. Med. Zeit.*, No. 103, 1890) reports two cases of cure after injection—one of lupus of right hand and fingers, and another case of ulceration of right cheek and eyelid.

Bulikonski (*Przegląd lekarz.*, 50, 1890) comes to the following conclusions regarding cases treated in Kaposi's clinic in Vienna:—(1) The injection of Koch's lymph excites in lupus areas an inflammation accompanied by well known general symptoms of reaction. (2) Reaction follows not only in pure tuberculous diseases, but also in others, as in leprosy, sarcoma, etc. (3) It cannot yet be positively stated that the injection of the lymph is always followed by reaction, even though the disease is staidly tuberculous in nature.

Czerny says (*Deutsch. Med. Woch.*, 51, 1890) that in the initial forms of tuberculosis and in lupus the Koch material is so satisfactory in its results that it may be fairly considered the most brilliant discovery in therapeutics.

In a letter from Berlin (*Univ. Med. Maga.*, March, 1891), Dr. Guiteras says that many hopes awakened by this discovery have not been verified. The building up on this basis a system of treatment is the weakest part of the structure. The curative operation of the agent is limited to a small number of cases, and these cases we can perhaps conceive curable by other means. He further states that if we take away from this discovery all possibility of success as a therapeutic agent, yet Dr. Robt. Koch

has given us the first clear insight into the functional pathology of the approaching epoch.

The discussion at the Berlin Medical Society on tuberculosis and its treatment by tuberculin came to an end on Feb. 25th. Fränkel, in his reply, says: "I am of opinion that tuberculin exercises a direct influence on those parts of the body where tubercle bacilli exist and where they have caused changes to take place, and that this influence consists in a corrosive action with supervening necrosis. Thus I uphold my opinion that tuberculin is a specific for tuberculosis."

The cases of surgical tuberculosis treated in the Montreal General Hospital have not shown much improvement; on the contrary, many seem to be much worse than before the treatment by injection of lymph was commenced. The cases injected comprised tuberculosis of testicles, bladder, glands of neck, knee joint, lupus, tuberculosis of the skin, etc. The cases of lupus showed no local reaction until some time after the injections were discontinued, though the general reaction was most marked. The result was that the patients were rather worse than before the commencement of the treatment. The same may be said of the joint cases and the testicle cases. A case of enlarged glands of the neck after injection with the lymph, showed signs of consolidation of the apex of one lung, though apparently the lungs were quite normal before. On the whole, our experience has not been favorable in the surgical wards. It is well to keep in mind that fresh and unsuspected foci of tuberculous disease may be lighted up by this treatment, and Dr. Liebmann of Trieste (*Berlin Klin. Woch.*, No. 4, 1891) states that tubercle bacilli are found in the blood of people under treatment with tuberculosis owing to the liberation of bacilli from a localized focus. Dr. L. says he never found bacilli in the blood of persons not treated with the lymph. Dr. L.'s statements, however, require confirmation.

*Craniotomy for Microcephalus.*—A somewhat similar operation was performed in Montreal by Dr. W. Fuller as far back as 1878, and the case was reported at the time (*Canada Medical Record*, vol. vi), but it attracted no attention. Dr. W. W. Keen (*Med. News*, Nov. 29, 1890) reports a case which he believes to be



the first operated on in this country, and quotes two cases of this operation done by Lanne-longue of Paris and published in 1890 (*L'Union Médicale*, July 8, 1890.) Dr. Keen's case was that of a girl aged  $4\frac{1}{2}$  years, with a small, prognathic head. She never could walk, was constantly moving, wringing her hands, and slavering. Six inches and a half of the cranial vault, one-quarter inch wide, were removed from a little to the right of the sagittal suture; recovery from the operation was complete in five days, and the further result regarding the intelligence of the child, etc., was promised in a future report. A somewhat similar operation, though much more extensive, was performed by Prof. J. A. Wyeth of New York (*N. Y. Med. Record*, Feb. 21, '91) on a child 11 month old, with very encouraging results.

*Successful Resection of the Liver.*—Dr. G. Fogliani (*Gazetta degli Ospitali*, Jan. 21, 1891) reports a successful case from the practice of Prof. Tansini of Modena. Patient, a woman aged 25, admitted Nov. 26, 1890, suffering from a tumor of the epigastric region as large as a foetal head, with shooting pains in the abdomen and occasional vomiting, first noticed swelling three years before. Laparotomy was performed on Dec. 8th. The tumor was firmly adherent to the omentum, and in separating it many ligatures had to be used. In drawing out the tumor it was seen to be a hydatid cyst, imbedded in the left lobe of the liver. Prof. Tansini dissected it out, and finally, by sacrificing some of the liver substance, got it out whole. The hemorrhage, which was considerable, was checked by ligatures and temporary plugging. The wound in the liver was then closed by two series of sutures. The patient got rapidly well without rise of temperature, and was discharged cured in seventeen days.

*Surgical Treatment of Cancer of Pyloric End of Stomach.*—Dr. W. T. Bull (*N. Y. Med. Record*, Jan. 10, '91) reports three cases of pylorotomy with gastro-enterostomy for carcinoma. The first case, alluded to in a previous *Retrospect*, was that of a woman aged 27, operated on April 10th, 1890. She was alive and in good health at the time Dr. Bull's paper was read. The greater part of the stomach was excised and the cut duodenum and stomach closed completely, then a fresh open-

ing was made in the anterior wall of the stomach near the great curvature, and another in a loop of jejunum near its commencement. Abbe's catgut rings were introduced and then secured in the usual way. The operation occupied three hours. The patient was fed by the rectum for two days, fluids by mouth on third day, and solid food on the tenth day. She left hospital well at the end of seven weeks. The second case was also one of carcinoma in a man aged 63, but he died from faulty suture of the duodenum at the end of fifteen hours. The operation took two hours. The third case was a woman aged 63, and was also unsuccessful owing to the accident of leaving a sponge in the stomach, which led to rupture of the line of union and peritonitis. In preparing his patients for this operation Dr. Bull uses a stomach pump while the patient is under ether. He performs the median incision and prefers it to any other. He uses no clamp for the stomach or duodenum, but prefers the fingers of an assistant. A plug of iodoform gauze stops the duodenum and flat sponges keep the stomach dry. The cut end of stomach and duodenum are closed by a continuous suture of the mucous membrane, reinforced by interrupted Lembert's sutures. In using the catgut rings he always, in addition to the silk ligatures, makes use of a continuous silk suture.

One-half the cases of pyloric cancer are favorable to operation according to Gussenbauer, the neighboring glands not being involved.

Dr. Robert Weir, on Dec. 8th, 1890, read a paper before the Surgical Section of the New York Academy of Medicine on *Gastro-enterostomy rather than Resection for Cancer of the Pylorus*. He says that in the 96 cases of gastro-enterostomy that he had collected there were only 39 deaths (40 per cent.), and all these were done by the old method of operation. In 24 cases where the approximation plates or rings were used there were only 3 deaths (12 per cent.). In Billroth's 41 cases of pylorotomy for fibrous stenosis there were 22 deaths, 16 of these from stitches giving way at the duodenal end.

*Experimental Studies in Intestinal Surgery.*—In the *Medical News* of Feb. 28th, 1891, Drs. Ashton and Baldy of Phila-

delphia have a paper on the above subject. It describes the technique and methods of the work they have done on the lower animals. Amongst the improvements introduced to increase the rapidity and safety of operations is a new approximation ring made of segments (usually two) of solid rubber cord one-eighth inch thick, united by catgut ligatures. Only four approximation ligatures are used, and are tied to the catgut uniting the segments together. The advantages of this ring are that it has a large opening, and the approximation surface is small and does not take up much space. It is solid, immovable, firm, and easily manipulated. It is quickly made and costs little. For implantation of the ileum into the colon by end to end invagination a different ring is used, made of the larger sized rubber bands found in stationers' shops, half an inch broad and one-sixteenth of an inch thick. They can be cut the required length and stitched with catgut. After the approximation sutures are tied, the operation is completed by a continuous gut suture round the parts and through its serous membrane only. In end-to-end invagination, first a resection is made, a rubber ring of the proper size is introduced into the proximal end of the gut, then with a continuous catgut suture the cut edge of the bowel is stitched to the lower edge of the rubber ring. A strong catgut suture with needle at each end is now introduced. Each needle is carried in turn into the lumen of the gut until it reaches the upper edge of the ring; it then perforates the rubber, passing directly through it and the intestinal wall, bringing both ends outside the gut. Several sutures are thus passed, and they are afterwards introduced into the distal end of the gut, half an inch from the cut edge, like a Lembert suture, but including muscular as well as serous tissue. The portion of the gut with the rubber ring in it is then invaginated into the distal end and all the sutures being pulled tight, care being taken to turn in the portion of bowel beyond the point where the sutures are introduced. To complete the operation, a supplementary continuous silk suture is placed around the whole circumference of the invagination. The authors say this method is rapid, and there is very little danger of leakage. The

description, which is complicated, is difficult to understand without the aid of illustrations with which the original article is supplied. A somewhat similar method is described for the purpose of bringing the ileum and colon together by invagination.

*Constriction of the Ileo-Cæcal Valve.*—Pean (*Medical News*, Feb. 28th, 1891) describes an operation for the relief of the above-mentioned condition by incising the colon, cutting away from the valve all abnormal tissue, and then suturing again the cut bowel by catgut.

*Nephrectomy for Hæmophilia Renalis.*—Professor Senator (*Berlin Klin. Woch.*, Jan. 1, 1891) reports a case of hæmophilia renalis in a girl aged 19. A hereditary tendency existed in the family of her father. The seat of the bleeding was located in the right kidney with the endoscope by Dr. Nitze. Medicinal measures proving of no avail, and the patient threatening to die of anæmia, nephrectomy was performed, the patient making a rapid recovery. The excised kidney was perfectly normal. In his paper Senator mentions two other cases of nephrectomy for obstinate hæmaturia.—(Quoted in *Medical News*, Feb. 7, '91.)

*Removal of the Gasserian Ganglion for Severe Neuralgia.*—In the last *Retrospect* was noticed the bold operation performed by Mr. Rose of King's College Hospital, London, of removal of the Gasserian ganglion for severe neuralgia. Mr. Rose a second time performed this operation (*Lancet*, Feb. 7th, 1891) on Thursday, Jan. 29th. The patient was a female, aged 60, under Dr. Ferrier's care, who had suffered for many years from severe neuralgia, chiefly affecting the right superior maxillary nerve. After being put under chloroform the eyelids were stitched together on the right side, a flap of skin was dissected forward, the zygoma was exposed, and after holes had been drilled by an electromoter, it was divided and drawn down with the masseter muscle. The coronoid process of the lower jaw was also drilled and divided in this same manner, and turned up with the temporal muscle attached; the external pterygoid muscle was then cut through and the foramen ovale reached, into which the pin of a half-inch trephine was inserted and a disc of bone removed. The bleeding was troublesome, and persisted for some time. The ganglion was seized

by some specially constructed hooks, one of which had a cutting edge on a concave surface. Its attachments were thus loosed and divided. The wound was washed with bichloride solution. The bones which had been sawn through were replaced and secured in position by nine sutures, a drainage-tube inserted, and the wound dressed with cyanide gauze. The operation took one hour and a half. The patient, when the report was written, was doing well. The first patient operated on by Mr. Rose in April 1890, by a different operation, still continues free from pain and is in good health.

*Repeated Operations on the same Nerve for Chronic Facial Neuralgia.*—Dr. Edmund Andrews (*Medical News*, Feb. 14, '91) says that repeated operations on the same nerve will give after each operation a prolonged period of relief to patients suffering from facial neuralgia, and relates cases to prove this. He says that in chronic cases the Gasserian ganglion is always inflamed and extirpation would effect a permanent cure. He suggests the following operation, but evidently had not heard of Mr. Rose's description of his first operation in the *Lancet* of Nov. 1st, 1890. *Operation*—First raise the tissues from the outer surface of the ramus of the jaw and divide the ramus below its middle, then forcibly turn the ramus out so as to expose the parts within. Identify the nerve and follow it up and in to its exit from the foramen ovale; enlarge the foramen to admit of the entrance of a very small curette, and thus break down and remove the ganglion. After the operation the ramus could be replaced and wired.

*Fibromata of the Naso-Pharyngeal Space: their Treatment by New Methods.*—Removal of these growths by ordinary surgical methods has not proved very satisfactory, the severe hemorrhage which accompanies operations being the chief impediment to success. Dr. Thudichum (*Lancet*, Jan. 31st, 1891) advocates the use of the electro-cautery in these cases; by this means he dissects out, divides and destroys the tumor. Bleeding is either prevented or arrested by the injection into the bleeding adhesions of a concentrated solution of ferric chloride. He employs the electro-cautery in two forms—one, the fork-burner, which cuts into the parts like the sharpest chisel; the other, the electro-cautery loop, used while hot as an écraseur. The styptic is injected with a small syringe

armed with a long platinum needle. No general anæsthetic is used, only a local one, as cocaine. Almost the entire operation is performed through the nose, and the risks of the operation are absolutely *nil*. In some cases the tumor has to be cut to pieces in the pharyngeal space, through the nose, by a cutting instrument like a lithotrite, and removed in pieces with a wire loop. The operations are tedious, but safe. A number of cases are cited.

*Volkmann's Treatment of Inveterate Club-foot.*—Von Büngner of Halle, in a paper on the Volkmann treatment of club-foot (*Centralblatt f. Chirurgie*, Jan. 1891), says that however advanced the age of the patient, and complete the ossification of the bones, there exists still almost unimpaired a "transformative power" or a power of moulding the opposed surfaces of bones by the ordinary processes of absorption under pressure and of nutrition generally to the conditions under which they may be placed naturally or by artificial means. The worst cases of club-foot have been successfully treated without operation in adults from the age of 20 to 30. In one case of extreme talipes varus in a young man aged 24, the procedure was as follows. The patient being placed under chloroform, the foot was forcibly flexed to the utmost degree possible and fixed in the new position by a bandage of water-glass, which is much harder and more durable than plaster. Thus partially relieved the patient was allowed to walk as well as he could, thereby continuing the pressure in the desired direction and developing the muscles of the leg and foot. After some weeks the procedure was repeated, more complete rectification being obtained until a cure was effected. The cure was complete at the end of fourteen months. He could then wear ordinary boots, could walk for an hour without fatigue, and when the feet were covered with socks, showed no deformity.

*Treatment of Acute Effusion in the Knee-joint by Tapping.*—Mr. Edmund Owen (*Practitioner*, Feb. 1891) recommends that in cases of traumatic effusion of the knee-joint good results follow tapping with trocar or evacuating the fluid by means of an aspirator. He prefers the trocar and cannula, and makes the puncture on one side of the patella; when the cannula is withdrawn, the opening should be closed with collodion and the limb fixed in lateral splints of house-flannel and plaster-of-Paris. Great relief is at once given to the patient.

I have myself followed this practice for some years, both in ordinary synovial effusion following injury and in fractures of the patella. In my cases I have always used the aspirator, and have immediately afterwards put the limb up in plaster-of-Paris. This is the quickest way of treating such cases, and one which gives almost immediate relief to the patient.

*Lithotrity by a Series of Sitzings.*—Prof. Guyon (*Annales des Malad. des Organes Genito-Urinaires*, Dec. 1890) describes a class of cases in which he has found it advisable to empty the bladder in a series of sittings, although he has adopted *in toto* Bigelow's views for all ordinary cases. The cases needing a series of sittings are those in which the calculus is phosphatic. In these patients the bladder itself is very irritable, and resents prolonged operation which is necessary for its complete evacuation, whilst its loculi and rugæ render the task of finding all the calculi a most difficult if not impossible one. Added to this such bladders are always of large capacity, and often non-tractile, or only contract with difficulty, so that the fragments are not readily washed out from all their various lurking places. Guyon remarks that it must be borne in mind that the evacuator does not exercise much, if any, attraction for fragments more than an inch to an inch and a half from its eye, so that in these large bladders fragments are very likely to be left behind. M. Guyon cites the case of an old man in whom, after the removal of considerable masses of calculous matter, he found, a few days later at a second sitting, another large calculus which he had left behind quite unsuspected on the first occasion. A case of this kind is the more perplexing, as the cystitis from which such patients suffer is always greatly ameliorated by the first operation, thus leading the patient and the surgeon, if he is unsuspecting, to imagine that a complete cure has been effected. In some instances which he quotes, Guyon shows that the class of patients to which he refers even do better when treated as out-patients by frequent small crushings than when, with the additional security of bed and hospital treatment, the bladder is completely emptied at one sitting.—(Quoted in the *Supplement to the British Medical Journal*, Jan. 3rd, 1891.)

## Society Proceedings.

### MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

*Stated Meeting, 23rd January, 1891.*

F. J. SHEPHERD, M.D., PRESIDENT, IN THE CHAIR.

*Continued from page 715.*

*Case 2.*—In this patient very much the same conditions were present. He was an older (28) and stronger man. Consolidation at right apex. There had been slight hæmoptysis. Bacilli and elastic tissue in sputum. The temperature, taken every two hours day and night for six days before treatment began, never went as high as 99°. The best reaction was obtained from the second injection (of 0.002 c.c.), when the temperature reached 101°.

*Case 3.*—This was a case of tubercular laryngitis with left apex dulness. History of hæmoptysis. No bacilli. The temperature after the first injection went to 103°, but no such reaction has since been noted.

DR. JAS. BELL reported as follows:—

(1) G. M., aged 6 years, a waif left on the wharf in the autumn of 1889, with advanced hip-joint disease and scrofulous sores about the face, neck and body. In May, 1890, the hip-joint was excised, the whole head and neck of the femur and the upper two-thirds of the great trochanter being removed. Patient recovered with a good, useful limb and good mobility. During the summer he developed tubercular disease of both testicles. The left, which was completely disorganized, was removed in November, and the right, which was simply felt as a hard nodular mass of epididymus, was left alone, as it seemed to be in a quiet, non-progressive condition. Good recovery followed operation. Patient was injected on December 23rd, the dose given being .0002 gm.; no reaction followed. On the 29th he was injected again, the dose being .0003 gm. Only slight general and no local reaction followed, the temperature only reaching 99°. Injections then discontinued.

(2) C. H., aged 25. Suppurating disorganized testicle.



Diagnosis doubtful. No family history of tuberculosis. History of posterior gonorrhœa for about six months, when acute orchitis supervened, ending in suppuration in August last (1890). Hardness of epididymus and pus discharging sinuses remained. Injected on December 25th dose .002; no reaction. Dec. 27th, injected again dose .004 grm.; slight heaviness and temperature rose to 99°F.; no local reaction. Injections were then abandoned and the testicle removed a few days later. The testicle (shown at the meeting) was literally filled with tubercles, which were pronounced by Dr. Johnston to be not of very recent origin, and not attributable to the injections.

(3) N. B., aged 26. Diagnosis doubtful. Thought to be tubercular disease of the bladder and kidneys in an early stage. Symptoms: frequent and painful micturition; blood in small quantities at end of micturition; urine containing pus in considerable quantities; intense albuminuria; emaciation. Symptoms lasting 2½ years, and coming on as a sequel of posterior gonorrhœa; temperature ranging from 99° to 100°F. before injection. Injected on the 21st of December dose .002; no reaction, general or local. Again on the 22nd, dose .004; no reaction, general or local. Injections discontinued and patient discharged at his own request.

(4) A. M., male, aged 25. Had suffered for five years from bladder irritation, with pus and blood in urine. Never had gonorrhœa. Left testicle had all the characters of tubercular disease of that organ. A nodule had existed in the lower end of the epididymus for more than a year, and a little local suppuration had occurred twice, leaving a sinus which discharged for some time. Sinus was now closed. In September a perineal section had been performed, but had failed to give him relief. On the 1st of November Dr. Bell had opened the bladder above the pubes, and with the aid of the electric light scraped and cauterized several tubercular ulcerations around the neck of the bladder. The bladder wall was found at that time to be studded with tubercles which had not yet broken down. Prompt and satisfactory relief had followed the operation, and the patient's general health had improved greatly. Patient was injected on

account of the tubercular testicle and the tubercles known to exist in or beneath the mucous membrane of the bladder. He was injected as follows: Dec. 20th, .001 grm.; slight local and general reaction. Dec. 21st, .004 grms; marked febrile reaction, pain and tenderness in testicle, and increase in pus and albumen in urine. This patient was injected again as follows: Dec. 24th, .006 grms.; Dec. 30th, .008; Jan. 19th ('91), .006. The same symptoms of local and general reaction followed each injection, and after the last injection some blood was found in the urine for the first time since the suprapubic operation, performed on the 1st of November. This patient is enthusiastically hopeful, and has gained three pounds since the treatment began. As his general health has been steadily improving since the operation on the 1st of November, and no observations as to his weight had been made prior to the use of the parataloid, this slight increase of weight must not be given too much prominence as an evidence of the curative effects of the remedy.

(5) A. D., a little French-Canadian child aged 5 years, suffering from a tubercular knee-joint of eighteen months standing, but in an early and quiescent condition, so that the child could walk almost without a limp, and could extend the leg fully. This little girl had been under observation for eight days before any injections were given her. During this time she was carefully examined, and her temperature, which was taken every four hours, was uniformly normal. She was given the first injection 24th of December; dose, .0002 grms.; distinct local and general reaction followed. The knee became red, hot and painful, and increased a quarter of an inch in circumference, while the temperature rose to 101°F., and the child was very drowsy and sick at her stomach. The reaction began about eight hours after the injection, and the temperature had reached the normal again within 24 hours. The knee, however, remained a little tender, and lay in a position of increased flexion. She was injected again as follows: Dec. 28th, .0003; Dec. 31st, .0004; Jan. 8th (1891), .0005; Jan. 14th, .0005; Jan. 19th, .0005 grms.—six injections in all. The same symptoms and local signs followed each of these injections—the knee on one occasion in-

creasing three-eighths of an inch within a few hours, and the highest temperature reached being  $103\frac{1}{2}^{\circ}\text{F}$ . The local manifestations on each occasion subsided a little later, and less decidedly than the constitutional symptoms. At the present time (Jan. 23rd) the knee is half an inch larger than when the first injection was given. The knee is semiflexed, and is painful and tender, so that the child cannot be induced to put the foot to the floor, nor can she allow the leg to be extended. In short, the knee has grown very rapidly worse under the treatment.

In recapitulation, Dr. Bell said that while the first case was beyond all doubt a markedly tubercular child, no reaction had followed the injection. This might be explained, however, by the fact that all the tubercular lesions, with the exception of the right testicle, had been removed. The second case had not reacted, although the testicle, when removed, was filled with tubercles which must have developed within six months. The third case was doubtful, and, although no reaction followed the injections, was probably tubercular. The fourth case showed clearly that a change of some kind had taken place in the diseased organs. The fifth case, however, gave the most undoubted evidence of the power of the parataloid, but this power was shown, so far, not in a curative effect, but the reverse, as the joint disease had been apparently greatly aggravated by it. On the whole, no cures had been effected, nor even distinct improvement, nor had it proved serviceable as a diagnostic agent, but, with possibly one exception (the last case), no ill effects had been observed from its use.

DR. JOHNSTON said that he had examined the sputum daily for tubercle bacilli in Dr. MacDonnell's three cases; Dr. Smith, house physician to the General Hospital, having assisted him in preparing the specimens. The sputum had been examined daily for a week before commencing the treatment. Up to the time of speaking no change had been noticed in the sputum. The number of bacilli had remained stationary. In the case of tubercular laryngitis no bacilli had been detected. The testicle extirpated by Dr. Bell had the ordinary appearances of a tuberculous testicle. Microscopically it showed no unusual amount of necrosis.

In one of the cases of lupus, that of the old woman, tubercle bacilli had been found in the sections, but were very scanty. The lupoid tissue was free from any unusual appearance. In the other lupus case, that of the young girl, there was marked proliferation of the endothelial cells in the small vessels, showing an intense, acute inflammation. These observations confirmed the statement which had been made that the action of the lymph upon human tuberculous tissue was quite different from what had been observed in the case of guineapigs. In the human subject the condition seemed to be one of irritation, not degeneration, about the young tuberculous tissue. The effect of the treatment upon the sputum would only be secondary, as the living tuberculous tissue did not come away with the sputum.

*Discussion.*—DR. MCCONNELL remarked that he had seen some good results from the treatment. To get a good effect from the remedy he considered it necessary to build up the system. In Dr. Bell's case of tuberculosis of the testicle, he thought that from such a small amount of tuberculous material we could not expect much reaction. He would present his report on the subject at some future meeting of the society.

DR. MILLS referred to a case of hemorrhage which had occurred after the injection of Koch's lymph.

DR. HINGSTON said that he had just begun the injection of the lymph. He thought that it was still in its probational period. Dwelling upon lupus, he remarked that one thing seemed to have been forgotten, and that was, that some cases of lupus without any treatment whatever will get well. Dr. H. could recall several cases during his practice of cure. He agreed with Dr. MacDonnell that patients with tuberculosis of the lungs should be selected with great care, and should be examined for days and days before the Koch treatment was adopted.

DR. SHEPHERD, referring to the case of lupus in the old woman, remarked that she had previously been under his care for seven or eight years. The diseased area had been cauterized and scraped several times. She had improved temporarily. Since the injection of the lymph had been begun he considered her condition worse. In the second case of lupus, that of the young

girl, after the injections had been discontinued for two weeks, there was a great reaction, which probably shows an accumulative action in the lymph. He had not yet seen any report of absolute cure of lupus from this treatment. The Vienna results had not been very promising. There had only been one case of apparent cure. As to its diagnostic power, reaction had been noticed in cancer cases in New York. It was also known to light up latent tubercular foci.

DR. RODDICK asked Dr. G. T. Ross if he had seen in Berlin any operation performed for surgical tuberculosis subsequent to the use of the lymph; also, if he had seen any autopsies on other cases than pulmonary tuberculosis; and, thirdly, whether the accumulative effect had been noticed.

DR. G. T. ROSS said that he had seen slight hemorrhage follow the remedy, which had to be discontinued for a few days. Many of the cases which he had reported had been carefully examined by able men before the injection of the lymph was commenced. He admitted that good diet and good surroundings improved many cases of phthisis, yet he believed that the improvement in the cases that he had seen was to be attributed to the lymph. He had not seen any surgical operation after this treatment, nor post-mortems in any other case than that of phthisis. Referring to the results that had been obtained here, he believed that the dosage had been too small, particularly in cases of local tuberculosis.

DR. BELL stated that the dose, though small, had produced very severe reaction.

DR. RODDICK remarked that in a case of lupus injected with  $\frac{1}{10}$  cm. slowly increased had produced great reaction. He had seen one case in Baltimore where the patient, after the injection of  $\frac{2}{10}$  cm., had become seriously ill.

*Examination of Sputum for Tubercle Bacilli.*—DR. JOHNSTON demonstrated the method of examining sputum for tubercle bacilli which he employed in the Montreal General Hospital. The cover-glasses were smeared with sputum by means of a thick platinum wire, the end of which had been flattened out to form a small spatula. When dried, it was fixed in the usual way by passing

through a flame. The staining was effected by placing a drop of carbol. fuchsin solution (magenta, 1 gramma; alcohol, 10 c.cm.; 5 per cent. carbolic lotion—90) upon the smeared side of the cover-glass and holding it in a small flame till bubbles rise, allowing it to boil gently for half a minute or less. After spilling off the excess of staining fluid, the cover-glass was immersed in acid methylene blue (methylene blue 2 grammes, 25 per cent. by volume; sulphuric acid 100 cc.), and allowed to remain there for one minute. It was then examined directly in water, or could be dried and mounted in balsam if desired. In most cases this examination could be made in less than five minutes.

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*Stated Meeting, February 6th, 1891.*

F. J. SHEPHERD, M.D., PRESIDENT, IN THE CHAIR.

*Hæmatoma of the Ovary.*—DR. T. J. ALLOWAY exhibited two interesting specimens of hæmatoma of the ovary. In one ovary, the larger of the two, a cavity existed in the oöphoron portion of the ovary which contained about three drachms of dark, tarry blood. This cyst ruptured on the ovary being brought to the surface for ligature. In the second specimen the cavity of the ovary contained a hard, dried, coffee-colored blood-clot about the size of a marble. Dr. Alloway said that the ladies from whom these ovaries had been removed were young women between the ages of 25 and 30, one married and the mother of one child. They were chronic invalids, and had been so for some years. The first case was operated on ten months ago; she was now in robust health and acting in the capacity of trained nurse. The other case had been but recently operated upon, and was improving. He said that he had now exhibited three cases of this rare pathological condition before the Society. He thought the condition more common than was generally supposed. The symptoms were the same as those seen in hyperæmia of the ovary and chronic ovaritis unless rupture takes place, when alarming shock and collapse will follow, according to the amount of blood lost. He had no doubt that follicular hemorrhage was a frequent cause of intra-peritoneal hæmatocele. It was due to

excessive ovarian congestion and escape of blood from the larger deep-lying veins into one or more ruptured vesicles. The number and size of the hæmatoneal sacs were in direct proportion to the extent of congestion.

*Contortion of the Fallopian Tubes.*—DR. ALLOWAY also exhibited this specimen. He explained that this is a twisting or bending of the tube upon itself irrespective of inflammatory adhesions. He said that Dr. Haultain of Edinburgh had recently drawn attention to this peculiar condition, saying that it was, in his experience, the most frequent morbid condition of the tube met with, and that it gave rise to very distressing symptoms. Sterility and dysmenorrhœa are the two principal associated conditions found in connection with *contortion* of the Fallopian tubes. In regard to the ætiology of this lesion, he said it was very difficult to offer an explanation, but it was thought that it had something to do with developmental irregularity. Before birth the Fallopian tube is in a state of contortion similar to the specimen exhibited, and it is not till puberty that, by a gradual process of straightening, it has acquired its normal undulating form, so that this condition may really be a continuance of the foetal state. This, however, would not explain cases that occurred after pregnancy had taken place, but under such circumstances it is thought there was an inherent tendency on the part of the tube to return to its foetal state.

*Aneurysm of the Aorta simulating Aneurysm of the Innominate.*—DR. R. L. MACDONNELL related the history of the case, which was briefly as follows: W. H. (colored), aged 33, barber, was admitted to the hospital in October last with an apparent pulsating tumor over the innominate artery. The patient had formerly been a Pullman car conductor. There was no history of syphilis or intemperance. In August last he began to suffer with severe pain in the right side of the neck, and behind the right ear; subsequently pain was felt in the upper axillary region of the chest, and in the right shoulder, which he believed to be rheumatism. He then came under the notice of Dr. J. A. MacDonald, who advised him to enter the hospital. On admission there was slight bulging of the chest, and dulness on percussion

over an area of two and a half inches in diameter, occupying the space between the clavicle and the sternum. The pulse was not perceptible in the right radial, brachial, carotid or temporal arteries. There was tracheal stridor and weak breathing at the left pulmonary base; no tracheal tugging; no laryngeal paralysis. The diagnosis was aneurysm of considerable size involving the innominate artery, and possibly the ascending arch. The absence of tracheal tugging and laryngeal paralysis, together with weak breathing at the base of the left lung, rendered an involvement of the transverse arch highly improbable. No symptoms pointed to the third part of the arch or the thoracic aorta. In Dr. MacDonnell's experience, the tracheal tugging was met with when the transverse arch was enlarged and rested on the left bronchus against the angle which that tube forms with the trachea. When the aneurysm occupied a point on the transverse arch beyond the crossing of the left bronchus, the tracheal tug was not perceptible; since the tumor dragging down the loop formed by the vagus and the left recurrent nerves (which bend around the aorta behind the root of the left lung) produced pressure upon the left bronchus from behind, this pressure was incapable of making a pulsatile impression on the left bronchus such as to be transmitted to the larynx. The patient was put to bed and 10 grains of the iodide of potassium ordered daily. He left the hospital Dec. 6th, feeling much better, almost free from pain, and no apparent increase in the size of the tumor. He was readmitted Jan. 23rd with great dyspnoea; the tumor had increased considerably in size, bulging from the chest-wall as large as half a cricket ball; it was pulsatile, and its walls were thin. The pulse in the right wrist was now present, though small. Death took place in six days. The reappearance of the pulse was attributed to the rapid enlargement of the tumor in the direction of the front of the chest, which relieved, in a slight degree, the pressure upon the innominate, and allowed the blood to flow again through the vessels.

DR. JOHNSTON exhibited the specimen. It was situated at the junction of the first and second part of the *arcus aortæ*. The innominate lay just within the sac; another sac lay in direct



contact with the innominate artery all the way to its bifurcation, and was closely bound to it by inflammatory connective tissue. The sac was as large as two fists, and had eroded the first and second ribs in the right supra-clavicular region. The anterior wall of the sac was formed by the pectoralis major. The sac contained a large amount of fibrin, not very firm. The great arteries and veins were free. The sac lay in front of the trachea and pressed upon the right bronchus. The left bronchus was quite free of the tumor. The recurrent laryngeal nerves were normal. There was intense tracheitis, with an ulcer on the anterior wall of the trachea one and a half inches above its bifurcation. There was acute broncho-pneumonia of the right lung.

DR. JAMES BELL was interested in the case, inasmuch as the patient had originally been sent to his wards for surgical treatment. Ligature of the carotid and subclavian had suggested itself, but an examination revealed the fact that these arteries were already occluded. The absence of syphilis in the history, and of any atheromatous change in the vessels, together with the comparative youth of the patient, were very remarkable. He spoke of the cases recently reported by Macewen where the formation of white clot was artificially produced by pricking the sac through and irritating its inner surface with fine needles. Encouraging results had followed this treatment in the four cases reported by Macewen, in two of which the results were verified by subsequent post-mortem examination.

DR. GEO. ROSS regarded the case as being most interesting, but it was not in his experience a very unusual thing to find innominate aneurysm closely resembling in its symptoms and physical signs aneurysm of the arch, or *vice versâ*, and he had already a case closely resembling that brought before the Society by Dr. MacDonnell. A correct diagnosis was impossible under the circumstances of this case. The points brought forward by Dr. MacDonnell with regard to tracheal tugging were interesting, though he was not prepared entirely to agree with the opinions expressed. He was under the impression that tracheal tugging could be produced by an aneurysm pressing upon the

trachea from in front and exerting pressure downwards as well as backwards. He must, confess, however, that the result of the autopsy in the case before the Society strongly supported Dr. MacDonnell's view of the causation of this physical sign, and the aid it could afford towards the localization of the tumor. In the present state of our knowledge relating to the localization of thoracic aneurysms, surgical interference with innominate aneurysms will always be extremely hazardous. It is very desirable that all cases presenting themselves, in which it is difficult to determine whether a given aneurysm is innominate or aortic, should be most carefully examined and reported, so that some points might be determined by which to establish the diagnosis.

*Round Ulcer of the Stomach causing Fatal Perforation.*—

DR. R. L. MACDONNELL stated that the patient, a woman, aged 59, had been under his care in the Montreal General Hospital up to about ten days before her death. Her case was interesting in the duration of the symptoms. The patient, who had been a needlewoman, began to suffer from pain and distress after food, with occasional vomiting, some twenty years ago. She was supposed to have dyspepsia up to 1877, when she was first seen by Dr. G. E. Fenwick, who noticed the "coffee-ground" appearance of the vomited matter. He elicited from the patient that she had been vomiting a darkish fluid for some years past. She was then suffering from severe pain in the epigastrium, vomiting after food, and hæmatemesis when she entered the hospital, and was under treatment for gastric ulcer for six weeks. She derived much benefit. With the exception of slight epigastric pain, she remained free from severe symptoms until 1888, when she was again admitted complaining of severe pain and vomiting after food. There was no hæmatemesis. She recovered, and continued apparently well till the beginning of this year, when she again applied to the hospital with symptoms of gastric ulcer. She was admitted under Dr. MacDonnell. The patient was now much emaciated; the abdomen was very flat, and its walls extremely thin. There was diffuse tenderness over the epigastrium; no tumor perceptible. The patient was kept in bed several days

and her symptoms carefully watched. Milk diet was ordered. Gastric distress was noticed to increase until evening, when vomiting gave her relief. It was thought that the symptoms pointed to cicatrized ulceration, which was probably delaying the advance of food through the stomach. A soft tube was therefore introduced every day at 4 P.M. and a pint of water slowly passed through it. The discomfort was relieved, no vomiting occurred, and she was able to sleep without epigastric discomfort or pain. At the time of her leaving the hospital she was free from pain and able to take most of the common articles of diet without discomfort. On her return home she ate freely of what was going, when she was taken suddenly ill, and in a few minutes was in a condition of collapse. She was seen by Dr. W. G. Stewart. There was very severe pain at the epigastrium, and copious vomiting of a "coffee-ground" fluid. He was aware previously that the patient was the subject of gastric ulcer. He was unable to afford her any relief. At the autopsy, when the abdomen was opened, the ulcer was plainly visible in the right half of the epigastric region, and it presented a decidedly punched out appearance. The ulcer was situated near the pylorus, close to the lesser curve; its edges were raised, and there existed much thickening of the surrounding gastric wall. The stomach was moderately dilated. The abdominal cavity contained about a pint of "coffee-ground" fluid similar to that which had been vomited. There were evidences of general peritonitis.

*Obstruction of the Cystic Duct; Cancer (?) of the Gall-Bladder.*—DR. JOHNSTON exhibited this specimen for Dr. Molson. It showed a large calculus the size of a pigeon's egg in the cystic duct, two inches above the junction with the common duct. A small calculus the size of a bean lay just at the orifice of the ductus communis choledochus. In the region of the gall-bladder was a ragged, fibrous mass as large as an apple. Examination of this tissue under the microscope showed a dense fibrous stroma, in which a large number of lymphoid cells were found. The microscopic appearance of the growth was not that of cancer.

DR. MOLSON remarked that the patient was 64 years of age;

fairly well nourished. There was a history of frequent vomiting, which always yielded to careful dieting. Two weeks previous to her death there was incessant vomiting, which proved uncontrollable, although every remedy that could possibly relieve her had been tried. There was no pain, no sign of jaundice, and nothing could be made out by examination. The patient gradually died of asthenia.

DR. CAMPBELL asked if there had ever been any history of biliary colic.

DR. STEWART wished to know how Dr. Molson explained the vomiting.

DR. SHEPHERD remarked that, according to Tait, jaundice was of rare occurrence with only one or two calculi in the gall-bladder. He believed the condition might have been benefited by an operation.

DR. MOLSON replied that there had been no history of colic, and that the vomiting was probably purely reflex.

*Diabetic Coma.*—The subject of acetonuria having formed the subject of an interesting paper recently read before the Society prompted Dr. J. A. Hutchison to report a case of diabetic coma which had lately been under his care :

J. D., aged 50, was brought home from work in the morning of Nov. 13th in an exhausted condition. When seen by Dr. H. he complained of loss of appetite and constipation. On the following day the patient was very drowsy, and could only be aroused with difficulty. The case now appeared to be one of uræmic intoxication. The patient's previous health had always been good. He had been a soldier, led a fast life, and drank a great deal, but for the past twenty years he had been steady and regularly at work. There was no history of syphilis. For twelve years he had been passing an abnormally large amount of urine, but no attention was paid to it. Lately the amount of urine increased ; there was marked loss of appetite, great thirst, and obstinate constipation. The patient was now considerably emaciated ; the skin dry and sallow. Four to five quarts of urine were passed a day. It was of a pale straw-color ; spec. gr. 1032. Fehling's test gave a large deposit of oxide of

copper. On Nov. 19th, the third day under observation, the patient felt better and was able to move about the house. On the morning of the 20th he became very dropsical; breathing was slightly stertorous, and the pupil of one eye dilated (the other eye had been destroyed some years ago). The pulse could be faintly felt at the radial. During the day coma increased until death ensued at seven o'clock that evening, one hundred and twelve hours from the time he had left his work. The urine had been chemically examined by Dr. Ruttan. No acetone was found.

DR. HUTCHISON remarked that the case was interesting to him from the fact that such advanced disease should have given rise to so few symptoms, that a physician was never consulted until a few days before death. An abstract of the autopsy performed by Dr. Johnston was as follows: "Body of a spare, emaciated man; skin sallow, rough and dry. Heart and lungs showed nothing special. There was slight cloudy swelling of the kidneys, with several large clear cysts in the centre of each organ. Intestines and stomach were normal. The supra-renal capsules and semilunar ganglia showed no gross pathological changes. Brain: pia, thick and opaque over the convolutions, was readily detached; subarachnoid fluid was abundant, and the posterior cornuæ of the lateral ventricles were dilated. Throughout the cortex, as well as the white matter, ganglia at the base and medulla, the brain cut with resistance. This was probably due to an atrophic change, with a relative increase of the connective tissue."

*Cystic Degeneration of the Placenta.*—DR. C. O'CONNOR exhibited this specimen, which showed extensive mucoid change and enlargement of the villi of the chorion. The patient, aged 32, had been delivered of two full-grown children. There was no history of syphilis. On examination the os was found partially dilated, placenta presenting, and considerable bleeding. The vagina was tamponed and Dr. Telfer called in, who anæsthetized the patient. The os was dilated with the fingers, and an enormous quantity of cysts removed, sufficient to fill an ordinary wash-basin. The uterus then contracted firmly and the hemor-

rhage ceased. Creolin douche was given and an hypodermic of ergotin. The loss of blood had been considerable ; the patient was blanched, almost pulseless, and the extremities cold. Frequent hypodermics of brandy were given. At eleven o'clock next morning the pulse was 126 and temperature 99°. She steadily improved and made a good recovery.

DR. TELFER confirmed Dr. O'Connor's report.

DR. REDDY, in referring to these cases of cystic degeneration or hydatidiform mole, believed that there was a loss of vitality in the ovum, which disappeared early, and the placenta went on to cystic degeneration.

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### Correspondence.

#### JAUNDICE AS A COMPLICATION OF TYPHOID FEVER.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

SIRS,—In the report of the meeting of the Medico-Chirurgical Society of the 9th of January which you give in your March number, I am represented as stating that "jaundice in typhoid fever was not rare, though not often seen here." This is not the meaning I intended to convey, though I have no doubt the words are correctly reported. Jaundice is a very rare complication, and I can recall but one instance of its occurrence. In that case the patient was pregnant and there was an overloaded colon, so that a mechanical cause might have existed. Dr. Hutchinson, the author of the article *Typhoid Fever* in Pepper's System of Medicine, says that he has never seen this complication, and is inclined to think that it is very rare in America. Murchison met with but three cases, all of which were fatal, although in two the jaundice had disappeared before death. Altogether he could collect but nine cases, all of which were fatal but one. Griesinger observed jaundice in 10 out of 600 cases, and several of them recovered. Hoffmann (quoted by Hutchinson) found it in 10 out of 250 cases ; Liebermeister in 6 cases out of 1420.

I quote the figures to correct the wrong impression my words may have given to those of the Society who were present on the evening in question, as well as to those who have read the words reported.

Yours very truly,

R. L. MACDONNELL.

MONTREAL, March 7th, 1891.

THE  
Montreal Medical Journal.

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CANTHARIDATE OF POTASSIUM IN  
TUBERCULOSIS.

Prof. Liebreich of Berlin has introduced the cantharidate of potassium as a remedy for tuberculosis, and judging from certain results obtained by Heymann and others, it appears that it does possess some power. Heymann has treated twenty-seven cases of laryngeal and pulmonary tuberculosis with this agent, and with results said to be fully better than with tuberculin or any other mode of treatment. After the third or fourth injection the general state was found to be improved. In the laryngeal cases the pain and hoarseness rapidly diminished. The laryngoscope showed first a diminution in the redness, and in three or four cases the ulcers eventually healed completely. In the pulmonary cases, there was in the great majority a marked change for the better in both the local conditions and general symptoms.

Fraenkel has treated fifteen cases of tuberculosis with the cantharidate of potassium. He gives the details of a case of extensive tuberculous ulceration of the larynx with oedema of the surrounding parts and accompanied by severe pain on swallowing. After a few injections the pain and swelling disappeared. In all the cases treated, the action of the cantharidate salt was marked.

Fraenkel considers that it acts by direct action on the tubercle bacilli, while Landgraf suggests that it is partly owing to the action of the cantharidin in increasing serous exudation and mechanically washing away the detritus.

The dose of the potassium salt recommended is very small, being from 0.0001 to 0.0004 of a gramme; 0.0002 being a medium dose, or about the 1-300th of a grain.

The cantharidate salt is directed to be made as follows: 0.2 g. of cantharidine and 0.4 g. of potassium hydrate are placed in a vessel of the capacity of 1,000 c.cm. and containing 20 c.cm. of water. The vessel is heated in a water bath until the solution becomes clear, and then cold water is added to make 1,000 c.cm.

As cantharidin is not a chemically pure body, it is not possible to exactly estimate its dose. A sodium cantharidate solution may be made in the same way as the potassium solution; 0.3 g. of the sodium hydrate are, however, sufficient to make a clear solution, with 0.2 g. of cantharidin.

The recent unhappy experiences of surgeons and physicians in connection with tuberculin will make them very cautious in accepting any premature statements regarding the cantharidates or any of the other agents recently recommended for tuberculosis. If there is any virtue in the cantharidates, it will not be long before it is known.

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#### THE MEDICAL FACULTY OF COLUMBIA COLLEGE.

The College of Physicians and Surgeons of New York will, in future, be known as the Medical Department of Columbia College. This will enable this flourishing medical school, it is said, to make a four years' course compulsory on all its graduates. Columbia College agrees to spend during the first year the sum of \$120,000 on the medical school.

A very important part of the agreement between these two bodies is the retention of the power by the medical school to appoint all her own teachers forever. This will ensure a succession of the ablest staff obtainable, a result not likely to be attained when the appointments rest in the hands of the general University Board. The union will have an important influence on the promotion of higher medical education in the United States, and for this reason is to be hailed with gladness by the entire profession on the continent of America.



### Medical Items.

—Surgeon Parke, who served in Mr. Stanley's African Expedition, has been appointed a vice-consul in the Oil Rivers Protectorate.

—Mr. Thomas Bryant has been elected a representative of the Royal College of Surgeons on the General Medical Council, in place of the late Mr. John Marshall.

—Mr. C. S. Sherrington, Lecturer on Physiology at St. Thomas Hospital, London, has been appointed Professor-Superintendent of the Brown-Institution, vice Mr. Victor Horsley, who has resigned.

—An International Congress of Hygiene and Demography will be held in London in August next. Canadian physicians are cordially invited to attend and read papers on hygiene or any allied subject. Dr. Corfield is the general secretary.

—A discussion on "The remote effects of removal of the uterine appendages" will take place during the meeting of the Surgical Congress to be held in Paris during the present month. Mr. Lawson Tait has been requested to open the debate. It is about time we were obtaining from gynæcologists detailed and definite information on the ultimate results of these cases.