

The Canada Lancet

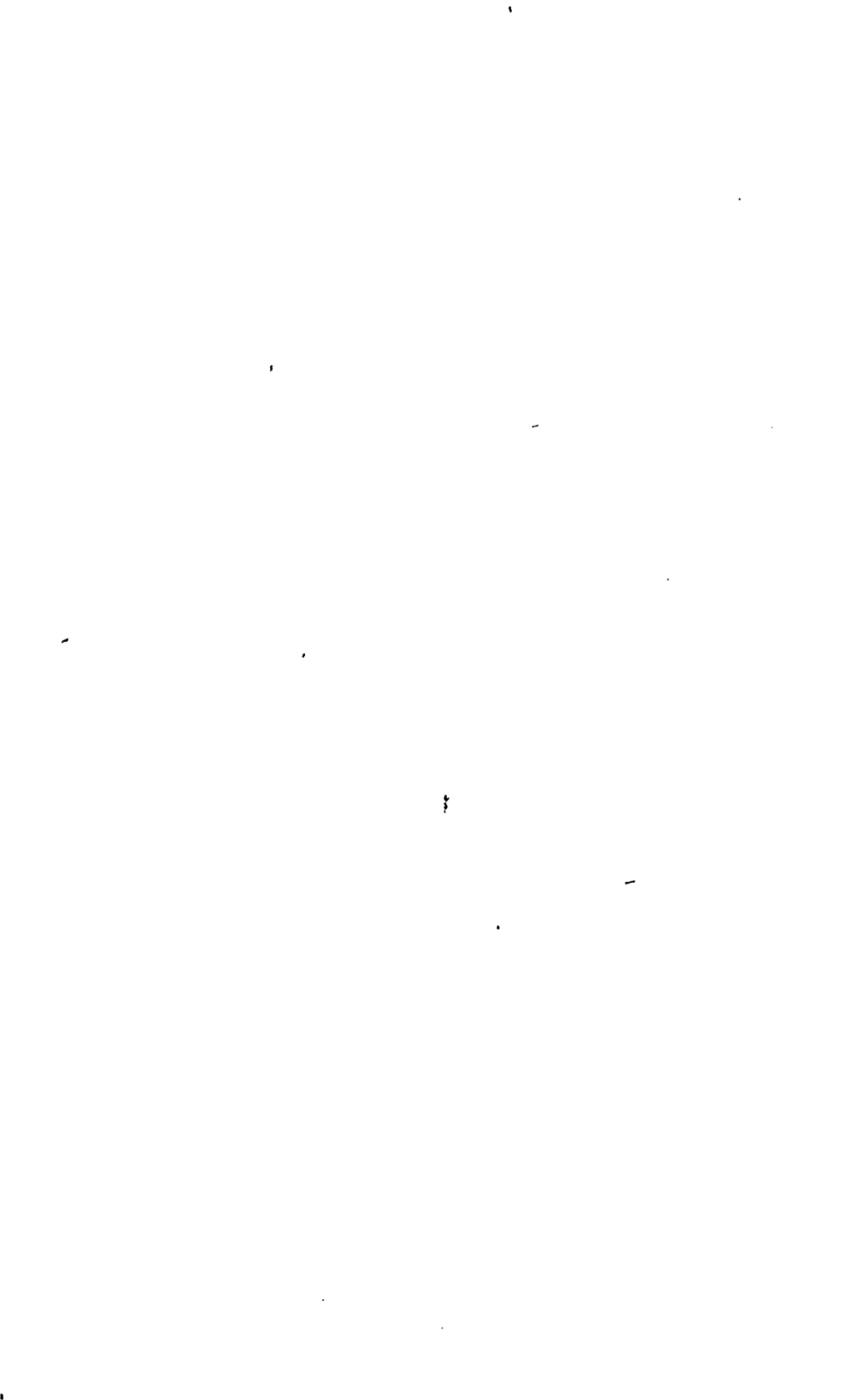
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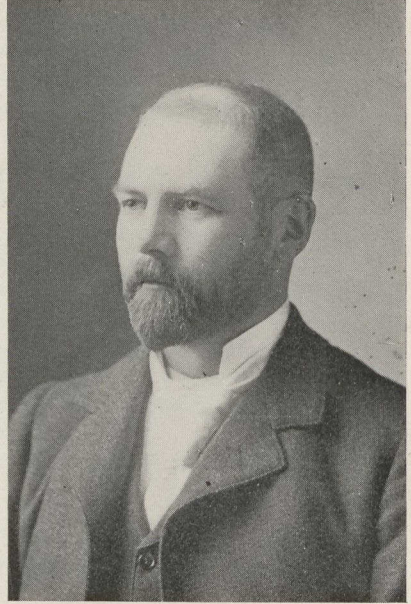
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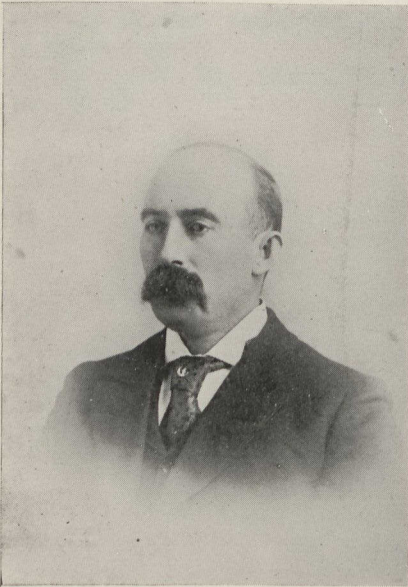
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THE INFLUENCE OF THE PLAN ON THE ACCEPTANCE OF RISKS FOR A LIFE INSURANCE COMPANY.

BY PERCY C. H. PAPPS, A. I. A.

Actuary of the Manufacturer's Life Insurance Company.

MR. President and Gentlemen: In the early days of life insurance the acceptance of risks lay almost entirely with the Board of Directors. It is said that the old test of the fitness of an applicant was a walk around the board-room table. If the directors considered the applicant to be a healthy-looking individual, his application would generally be accepted.

In course of time the board of directors called in the assistance of the medical directors, who eventually relieved the board of practically all responsibility in regard to the acceptance of risks. The medical directors, in their examination of cases laid before them, often feel that an applicant can hardly be accepted on the plan of insurance applied for, but believe that he would be safely insurable on some other plan. It is then that the actuary is called upon to combine his knowledge with that of the medical directors, in order that the combination of medical and actuarial knowledge may determine the terms upon which the insurance may be granted.

Needless to say, it is not my purpose to try to tell a body of medical men anything about the acceptance of risks from a medical standpoint, but I will endeavor to give a brief account of the acceptance of risks from the standpoint of an actuary.

In order to understand the effect of the plan of insurance upon the acceptance of risks, it is necessary that we should know something of the fundamental principles of insurance. I am aware that the medical directors and many of the local medical examiners have a very fair knowledge of insurance; but, in order to be on the safe side, I will endeavor to explain, as briefly as possible, some necessary points.

Read at the Ontario Medical Association, June, 1904.

Insurance may be granted under what is known as a yearly renewable term policy. Under such, the insurance is granted from year to year at a constantly increasing premium; each premium being just sufficient to cover the cost of the insurance during the twelve months following the payment of the premium. The premium will be comparatively small when the insurance is first effected, but it will increase each year, so that, if the life lives to old age, the premiums will eventually become prohibitory.

A more popular plan is what is known as the whole life policy. Under this plan, premiums are payable each year, during the life of the insured, and the insurance becomes payable upon his death. The premiums in this case are level premiums, that is they do not increase or decrease. During the early policy years the premiums paid are more than sufficient to pay for the cost of carrying the risk, and the balance is each year set aside and forms what is known as the "reserve."

There are several ways of looking at the question of what this reserve is. For our present purpose I would ask you to consider that, when the first premium is paid, a portion of that premium is set aside towards reserve, so that the amount at risk the first year is the difference between the amount of the insurance and the reserve. When the second premium is payable the reserve is increased, and consequently the amount at risk is diminished. In this way, although the cost of providing a certain amount of insurance increases as the life gets older, the otherwise steadily increasing cost is kept down, owing to the fact that the increasing reserve reduces the amount at risk. This reserve, under a whole life policy, increases with the age of the policy, finally, if the life lives to the oldest age shown by the mortality table, the reserve equals the amount of the policy.

The reserve varies greatly according to the plan of the policy. A one-year term policy provides insurance for the year only, and there is consequently no reserve. The reserve on a five-year term policy only amounts to a few cents per thousand insurance the first year, increases to a maximum at the third year, and vanishes at the end of the fifth year. On the other hand, the reserve on a ten-year endowment insurance, increases each year and amounts to the full face of the policy at the end of the ten years.

This short account of what is meant by the reserve on a life insurance policy will enable us to understand, that the amount which a life company has at risk under any policy is not the face value of that policy, but the difference between the face value of the policy and the reserve on it; and, since the reserve depends upon the plan of the insurance, the amount at risk does also.

When an application is received for a policy on a certain plan of insurance, we must, therefore, consider what the reserve on that policy will be from year to year. We can then tell what amount will be at risk each year, and can thus form an opinion as to whether the plan is one upon which the insurance can be granted. If we consider that there is too much at risk around those ages at which we suspect that there may be an excessive rate of mortality, we must change the plan to one which shows a smaller amount (if any) at risk around the dangerous ages.

For example, let us suppose that an applicant is applying for a whole life policy at the age of 35, and that there is a strong tendency to, say cancer in the family history. It would be felt that while the life was insurable at ordinary rates for the next twenty years, it would be well to get off the risk around age 55. In such a case the whole life policy would be refused and a twenty year endowment insurance offered. In this way the policy would mature before the life reached the age when the extra mortality would be expected.

If it were thought that there was only a slight tendency to cancer, a twenty payment life policy might be offered. In this case, although the policy would not mature at the end of the twenty years, still, as all the premiums would have been paid in by that time, the reserve on the policy would be considerably higher than on the whole life policy, and the amount at risk at the end of the twenty-years would consequently be less.

On the other hand, if there was a history of tubercular trouble in the family, and the applicant was of good physique, a policy would probably be granted on the whole life plan; but as, on the average, a heavier mortality would be expected in the early years of the policy, owing to the tubercular history, a lien or contingent debt would be placed upon the policy remaining level for perhaps five years, and then running off in equal instalments during perhaps the next ten years. If the life dies during the first fifteen years from any cause other than accident, the amount of the lien standing against the policy at the date of the death of the insured, would be deducted from the face of the policy in paying the claim. In this way only the poor lives pay any extra premium, and this is one of the strongest arguments in favor of the lien system.

The British practice of meeting the case of a sub-standard life of, say, 35 years of age, who applied for a whole life policy, is to accept the life and grant a policy on the plan applied for; but the policy would be issued at a premium as for a life aged perhaps 40 years, instead of 35. This is what is meant by "rating up a life five years."

A moment's consideration will show that the method of rating up lives a certain number of years, provides for an increasing extra mortality. This plan is only satisfactory in certain cases where an increasing extra mortality is expected, and it is now very seldom, if ever, used in Canada or the United States.

So far as we in Canada are concerned there are but two methods generally in use for the acceptance of sub-standard lives. The first is that of changing the plan of insurance; the second is that of imposing a lien. We might add a third which is simply a combination of the two just mentioned.

A method now used by at least one of the big American companies is that of issuing policies to sub-standard lives at the regular with-profit rates of premium, but the policies are placed in a special deferred dividend class. The profits, which will be paid on those policies, will depend upon the rates of mortality experienced by the policies in that class. Needless to say, the formation of a special class for sub-standard lives would only be feasible where the business of the company was sufficiently extensive to warrant there being a sufficient number of lives in the special class to give average results.

I might give some actual examples of the application of the lien system, or of changing the plan of insurance, but the two or three cases I have mentioned will illustrate the principles to be followed. The amount of lien to be imposed in any particular case can only be learned by experience, and is, to a great extent, a matter of guess-work. We have not at the present time any statistics to tell us just what extra rate of mortality we may expect in every case of doubtful family history, etc.

It may be well to point out that, while the imposition of a lien will cover some cases, and the changing of the plan will allow us to accept other cases, still, the imposition of a lien is not equivalent to changing the plan, nor *vice versa*. If a man applies for a whole life policy, and the medical board offers the applicant his choice of a whole life policy subject to a lien of 50 per cent. of the face of the policy, decreasing by 2 1-2 per cent. for twenty years, or a twenty-year endowment policy without any lien, one of the offers would be improper in most cases. If the extra mortality is expected in the early policy years, the life policy with the lien covers the case; for if death occurs in the early years the lien is deducted from the face of the policy when paying the claim, and if the insured lives beyond the ages when the extra mortality is expected, the policy will then be free from debt, and on the same footing as any similar policy granted to a first-class life. The twenty-year endowment policy does not cover an extra mortality in the early policy years, as the

largest amounts are at risk in the first years, and there is nothing at risk in the twentieth policy year. If the mortality in the later years is expected to be heavy, the twenty-year endowment fits the case: for, as just mentioned, the amount at risk is greatest in the first year, and it gradually decreases, so that finally there is nothing at risk in the twentieth year. The life policy, subject to a lien, will not cover the case where a heavy mortality is expected in the later years, as by that time the lien will have run off.

Occasionally a life is so much below the standard that it is not insurable on any ordinary plan. The actuary will then very often endeavor to arrange some special plan that can be safely offered. The offer of a modified plan is apt to cause much less annoyance to the agent and the applicant than a simple refusal to accept the application. A twenty-year pure endowment policy with the return of the premiums paid in the event of death during the twenty years, is an example of a special plan that can be offered to a decidedly poor risk. If the applicant lives for, say, ten years, the company has the interest on the premiums paid, which will be sufficient to offset the expenses, provided the commissions are properly adjusted. If the applicant lives to the end of the twenty years, the full face of the policy is payable. Under this plan, therefore, the company can lose very little by the early death of the applicant, and he will have the satisfaction of maturing his investment if he lives to the end of his twenty years.

Apart from sub-standard lives, we have cases of lives which are first-class, from a medical standpoint, but which on account of being engaged in a hazardous occupation, require to be carefully dealt with by the actuary. An extra premium, varying from \$2.50 to \$10.00 per \$1,000 insurance is usually imposed to cover the extra risk caused by hazardous occupations. Some companies accept lives engaged in hazardous occupations at ordinary rates, and place these policyholders in a separate class, where the dividends will depend on the mortality actually experienced in that class.

I must now refer to one investigation which will, no doubt, have an effect on the acceptance of risks, namely, what is known as the "Specialized Mortality Investigation." This is the experience of thirty-four Canadian and United States companies, upon ninety-four special classes of risks, which was compiled by the Actuarial Society of America. A mortality table, which was thought to represent fairly the mortality of standard lives in America, was chosen as a basis of comparison for the results of each of the classes. The ages of entry were grouped into four classes. Ages 15 to 28 were referred to as young entrants; 29 to 42,

mature entrants ; 43 to 56, elderly entrants ; and 57 to 70, old entrants. The experience is also divided into the first five years of insurance, and from the sixth to the thirteenth years. Roughly speaking, the first group of years will include those where the mortality will be comparatively light, owing to the effects of the medical selection ; and the second group will contain the years after the effects of selection have worn off.

As the result of the investigation of the mortality of these various classes is very interesting, I will now quote from the report of the Committee of Actuaries who had charge of the investigation :—

Lives insured for \$20,000 or more on one application, notwithstanding the care always taken in the selection of such risks, have shown a heavy mortality, except at young ages at entry, the old entrants being the worst lives.

Lives insured for smaller amounts than applied for have turned out to be bad risks ; while persons insured on a different plan than the one applied for, so as to require the payment of a higher rate of premium, were much nearer the normal.

Men born in Germany were good risks at young ages at entry, but poor risks at older ages of entry.

Persons born in Ireland proved poor risks during the first five years of insurance, but good risks after that time. The difficulty would appear to be one of circumstances rather than race, and the matter needs further investigation.

Lives born in Sweden and Norway have been excellent risks.

Colored people show up well after being insured five years, but poorly during the first five years. It must be remembered that great care has been taken in the acceptance of these risks.

Army risks in time of peace have not proved satisfactory. Officers in the navy have proved unsatisfactory at all ages. Civil officers, such as sheriff, marshal, police constable, etc., show unfavorable results except upon old entrants.

Members of paid fire departments in cities have been unfavorable risks.

Physicians show an improvement over earlier statistics. Those insured below age 43 have proved good risks, but the result has been unfortunate upon the physicians insured at ages over 42. These remarks apply both to the earlier and later years of insurance.

Lives exposed to electricity, engaged in sawmills, working in iron and steel at high temperatures, house painters, printers, tailors, butchers, and meat dealers, travelling salesmen, such of them as heretofore have been accepted for life insurance, have proved good risks, in spite of the supposed hazardous nature of the occupations.

Steel grinders and glass workers have proved unprofitable risks.

Potters are, on the whole, favorable.

Laborers show a heavy mortality, except at young ages at entry.

Contractors are good risks at young ages at entry, poor risks at older ages.

Lives engaged in theatrical occupations exhibit a very high mortality.

Cattle dealers and drovers have proved no worse than the average, excepting the old entrants.

Hotel-keepers, not attending bars, and wine and liquor dealers, who warranted it to be true that they were total abstainers, have proved to be poor risks. Those dealers who did not warrant that they were total abstainers have proved to be still worse risks; while still worse, on the whole, are the brewers and their employees. On the other hand, distillers and their employees may also be regarded as good risks, at least during the early years of insurance, the experience being less favorable after five years.

Railway passenger conductors show a mortality only slightly above the expectation. Railway express messengers exhibit favorable results, and railway mail clerks have been excellent risks.

In gathering statistics of railway passenger trainmen, only those lives insured since 1890 have been taken, in order to exclude those lives operating trains not fitted with modern appliances. The results of the limited experience taken have been decidedly bad.

Locomotive engineers show bad results, while locomotive firemen are still worse risks.

Bad results have been experienced upon officers of ocean steam-vessels; while the losses upon officers of sailing-vessels on ocean or great lakes have been still more heavy. The losses upon seamen and fishermen have not been excessive, except for young ages at entry. The small class of pilots has turned out well.

Lives who have been accepted for insurance notwithstanding an intermittent or irregular pulse have proved to be good risks at the younger ages, but not so good at the older ages.

Those who have been accepted, with more or less doubt, notwithstanding a pulse rate below sixty per minute, have proved to be extraordinary good risks at all ages of entry and for all durations of insurance.

Lives who have been insured after having reformed from intemperate habits show bad results, notwithstanding the extreme care taken in the acceptance of these risks.

Asthmatics appear to be good risks, except at the older ages of entry.

The care with which medical selection has discriminated against risks giving a recent history of inflammatory rheumatism, is witnessed by the results. Those who have had one attack have proved to be fairly good risks, except as regards older entrants, while those who have had more than one attack have not been satisfactory risks, except as regards young entrants.

The mortality amongst lives showing a record of gout is only slightly excessive within the first five years of insurance, but is afterwards nearly double the expectation.

Applicants with a history of syphilis show an almost equally bad record.

Contrary to expectation, those who have had otorrhœa appear to be good risks.

Those who have had hepatic colic show a favorable mortality, except for old entrants.

Those who have had renal colic, calculus or gravel, have proved good risks at young ages at entry, but poorer risks for mature and elderly entrants, and bad risks for old entrants.

Those who have had inflammation of the bowels, peritonitis or appendicitis, have been decidedly good risks for young entrants, and the elderly and old entrants are only slightly worse than the average.

Where there has been a record of blood-spitting, the old entrants have been good risks, the mature and elderly rather bad, and the young decidedly bad.

Persons who have had disease of the hip-joint have been bad risks at all ages.

Dyspeptic entrants, at the old ages, have been moderately bad risks. All others show good results, except the young entrants of light weight.

With the exception of young entrants, all classes of extra heavy risks have proved most unsatisfactory. Young entrants, whose parents have reached the age of 70 years, are distinctly good. Young entrants, for whom one parent, at least, has been noted as dying below 70, and young entrants having a greater girth of the abdomen than of the chest expanded, appear to be fair average risks. Omitting the young entrants, extra heavy weights have had a mortality slightly greater than 50 per cent. above the expectation, with the exception of those whose parents have both reached the age of 70 years, where the mortality has been slightly less than the above figure.

Those lives classed as heavy-weights, though not as heavy as the lives just mentioned, have shown exactly similar results, but the extra mortality has not been as high as in the case of the extra heavy weights.

Lives of ordinary weight, whose parents have both died below 60, have been fairly satisfactory for young entrants, but unsatisfactory for older ages at entry. Lives whose parents have both attained the age of 75, have proved to be good risks.

In lives of standard weight, where at least one parent has died below 70 of phthisis, the results have been good. The same is true, where, at least, one parent has died below 70 of some form of kidney disease, except that the elderly entrants of this latter class have not done well after five years. Where one parent has died below 70 of heart disease, the results have been good, except that the elderly and old entrants appear to be worse after five years. Where one parent has died below 70 of apoplexy or paralysis, the results have been good for young entrants, but 'not' so favorable for older entrants. The cases just mentioned have been lives of older entrants.

In cases of light weight, the results, on the whole have been quite favorable. Where at least, one parent has died below the age of 70 of any kind of disease of the lungs, the young entrants have been decidedly bad risks, the entrants of other ages have proved good risks. All other light weights have proved to be uniformly good risks.

Persons over six feet three inches in height have been good risks for young ages at entry, but bad risks for older ages; and unusually short men have shown similar results.

Where any near relative has died of cancer, the results have been good, except at older ages at entry.

Persons who have had any near relative develop insanity have been good risks, except for the elderly entrants, who show an excessive mortality after five years.

The remaining classes of lives consist of persons insured in select, counties of the United States.

The committee points out that care should be exercised in drawing any conclusions from these results. They state that: "One necessary warning cannot be expressed too strongly. It must not be forgotten that the facts herein given relate to the respective classes of risks among lives selected for insurance, and do not relate to the same classes among the general population.

"For example, it is not conceivable that among the general population those who have had, at least, one parent dying of consumption, are above the average of the others in vitality. If this is found to be the case as regards that particular class of insured lives, it indicates only that such persons of that class as have actually been accepted for insurance have been selected so carefully that, on the whole, those only have been

accepted who are peculiarly good representatives of the class. If, on the other hand, the results appear only moderately bad upon a class of risks heretofore accepted with great circumspection, it is to be inferred that had such circumspection not been exercised the results would have been still worse. This warning must be borne in mind as applying and intended to apply to each one of the classes under consideration."

In conclusion, Mr. President and Gentlemen, let me thank you for the honor which you have done me, in inviting me to prepare this paper, and I trust that it has not been altogether uninteresting to those present.

EXPECTANCY OF LIFE IN MORBID CONDITIONS OF THE CARDIO-VASCULAR SYSTEM.*

By ROBERT J. DWYER, M.B., (Tor.), M.R.C.P. (Lond.).

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LESIONS of the cardio-vascular system, met with in the course of life insurance work, present much more difficult problems in prognosis than when met with in the consulting room, or at the bedside. In the latter, indeed, the prognosis is usually a comparatively simple matter, the condition having advanced to stages characterized by abundant signs and symptoms, which form ample data upon which to base a forecast. In the former, however, the disease is usually incipient, the latent signs being few, and the symptoms scanty or absent. Again, when the subject presents himself as a patient, he does so with a frank and open mind, willing and anxious to give all the information he can in order to obtain relief. When the object, however, is life insurance, this aid is often denied us; owing either to ignorance, or, it may be, unwillingness on the part of the applicant.

Therefore, it follows that the utmost attention must be given to the diagnosis, and the most careful judgment brought to bear on every case of cardiac disease in which an application for life insurance is made. The problems before an examiner in every such case are first of all to determine whether the heart is performing its function properly at the time; if so, at what cost to itself; and, from this and other circumstances shortly to be mentioned, to say how long this will probably continue. In order that a satisfactory answer to these questions may be obtained, not alone must the condition of the heart be ascertained by the conscientious application of all the routine methods of examination, but the general condition of the patient must be noted, and a searching inquiry made into his family and personal history.

*Read at the Ontario Medical Association, June, 1904.

Among the most important, because most frequent, cardiac conditions upon which medical examiners have to give an opinion, are the various valvular lesions. It is proper, therefore, that we should primarily turn our attention to the consideration of these conditions. Few morbid changes in the body give such striking evidence of their existence as a valve lesion with its attendant murmur. Indeed, so impressive and so valuable is this sign as a means of diagnosis that, unless upon our guard, we may give it undue importance in prognosis. In other words, in making a prognosis, to regard the sign rather than the condition. Formerly, when all cases of cardiac murmurs were rejected by life insurance companies, this was not a matter of so much importance. Now, however, that a certain percentage of such cases are rightly admitted to life insurance, it is a matter of great importance to be able to identify and separate this group from those who are not admissible.

This identification is to be made not by regarding merely a given murmur, but by careful consideration of many other circumstances. Murmurs, indeed, have but a limited value even in diagnosis. They may be present when no valvular lesion exists; or, again, may be absent in severe valve lesions.

Even when denoting the existence of a valvular defect, they form little or no measure of its severity. From the standpoint of life insurance we may divide all cases of valvular disease into three classes:—

1. Those in which the only evidence of a lesion is the presence of a murmur.
2. Those in which, in addition to the murmur, other signs, such as hypertrophy, or modification of the normal sounds, are found.
3. Those which, in addition to the foregoing, present symptoms, such as dyspnoea cyanosis, etc.

The last group may be dismissed at once, for already terminal symptoms are present, and, with few exceptions, life will terminate in three or four years.

Many of those in the first two groups, however, have a brighter outlook before them, and there may be found a few good risks, some fair and more impossible.

In order to decide in which class a given case should be placed, it will be necessary to direct careful attention to the following points: (1) The nature of the lesion, (2) the age of the applicant, (3) the cause and duration of the lesion, (4) general physical condition of the applicant, (5) his personal history, and (6) his family history.

Taken in the order of severity, the gravest valvular defect is aortic regurgitation, then comes in order mitral stenosis, aortic stenosis, and, lastly, mitral regurgitation.

Aortic Regurgitation may be practically excluded from consideration. From its general tendency to increase, and the danger of sudden death, it is a condition too formidable to be considered as a justifiable risk for insurance. Clifford Allbutt says that ten years is a long period for this lesion. Broadbent, however, speaks more hopefully, and says that, with the second sound heard in the carotid and with hypertrophy slight, such a lesion, resulting from a rheumatic attack, may exist for many years without giving rise even to discomfort.

Such cases, however, are the exception, and the lesion, if established early in life, will probably terminate the latter, shortly before middle age is reached.

Where the lesion develops later, as the result of degenerative changes, the prognosis is much worse; at the most, two or three years will be the duration of life.

The same is true when it is the result of syphilis or excessive physical strain in early manhood.

Mitral Stenosis.—Here also we have a valve lesion, essentially so grave that very few, if any, of its victims would be accepted by life insurance companies on any terms.

The average duration of life for those suffering from this lesion is 33 years for men, 35 or 36 for women.

The gravity of the lesion is the result of the inherent tendency to increase in severity and its intimate relationship to the pulmonary circulation, whereby any attack of bronchitis or pneumonia injuriously affects the already embarrassed right heart. Exceptions, however, occur to this rule.

Quite recently I performed an autopsy on the body of an aged woman, dead of pneumonia. She was upwards of seventy years of age and had for some time suffered from paralysis agitans. On examining the heart, the mitral orifice was found to be markedly contracted, due to thickening and adhesion of the mitral flaps. Such examples, however, must be rare.

In connection with mitral stenosis, attention may be called to its occasional latency and consequent difficulty of diagnosis. When accompanied by its characteristic presystolic thrill and murmur at or near the apex, with its peculiar snapping first sound, it cannot be mistaken; but in this lesion, more than any other, the murmur is notoriously variable.

In some cases it may be at times entirely absent, and if we relied upon the presence of a murmur to make the diagnosis, the condition would be overlooked. In such a case a hint would be given by the characteristic first sound. If, with such a first sound, the area of cardiac

dulness is found to be increased upwards and to the left, along the third rib, and the pulmonic second sound is found to be accentuated; and, if with these signs, there is any pulsation to the left edge of the sternum, it would be justifiable to suspect the existence of mitral stenosis. This suspicion will be strengthened if there is the slightest indication of cyanosis or breathlessness.

Aortic Stenosis.—If all cases presenting a systolic murmur, heard at the second right interspace and transmitted up over the sternum into the neck, are to be called aortic stenosis this lesion will be found to be not alone the most common but the most harmless of all cardiac diseases. But it is found that the large majority of cases in which this murmur is present have no narrowing of the aortic orifice. The causes which produce this murmur, apart from aortic constriction, are blood conditions, giving rise to the hæmic or functional murmur; roughening of the valve cusps either from endocarditis, or deposit of lime salts; more rarely, congenital fenestration of the valve may give rise to a murmur; and, lastly, dilatation of the aorta itself may cause a murmur similar to that of aortic constriction.

Excluding those in which the murmur is due to some blood condition and which are, therefore, of no importance in prognosis, and also those in which the lesion is dilatation of the aorta and where the prognosis is, therefore, very grave, there are still many cases which would be eligible for insurance, either as fair or doubtful risks.

It is in this class of cases that we must carefully consider the different points previously mentioned. Of great importance is the cause of a given defect in the valve. Rheumatic endocarditis is the most favorable. Syphilis and degenerative changes are very unfavorable causes, and should lead to the rejection of the applicant, not on account of the valve lesion alone, but on account of the attendant conditions. The age of the applicant is also of importance. If at or before the middle of the third decade, provided syphilis is excluded, the lesion is probably due to rheumatism, and is, therefore, favorable. In the fourth decade, or later, degenerative changes may be suspected.

Generally speaking, too, the longer the duration of the condition, as conjectured from the attack of rheumatism, the greater is the probability of its being stationary, and, therefore, favorable.

The condition of the heart, apart from the murmur, should be most carefully ascertained. The presence or degree of hypertrophy will form a measure of the severity of the obstruction. The less hypertrophy the less severe the lesion. If with little or no hypertrophy there is a loud and long murmur, no increased tension of the pulse, and no change in the first sound at the apex, we may conclude that the lesion is unimportant.

Where, however, hypertrophy is pronounced, and the apex beat is markedly displaced downwards, the lesion is more severe and the outlook not so favorable. Further, attention must be given to the applicant's personal history; his occupation, habits and social condition must be taken into consideration. Finally, his family history will be of importance. Absence of gout or renal disease will be favorable, while the history of these and a family tendency to early death will be unfavorable. While the average age of death from this disease is placed at forty, a fair number may go for several years longer. Once, however, symptoms of cardiac embarrassment have arisen in this disease, even in the earlier adult life, the prognosis is decidedly unfavorable.

Mitral Regurgitation.— This lesion is not alone the most common but is the least grave of all the valve lesions. In giving a prognosis the same considerations must be borne in mind as were spoken of in the previous lesion. The large majority of cases result from rheumatic endocarditis. Following this, degenerative changes, such as calcareous deposit and dilatation of the left ventricle from myocardial conditions, are causes to be borne in mind. Where the lesion is the result of endocarditis, and where the leakage is moderate in amount, as shown by the position of the apex at, or just without the nipple line, and when from its duration it is probably stationary, the prognosis is good and life will be prolonged into old age.

Even when, in addition to all the physical signs of the lesion being present, there are also symptoms of cardiac failure, such as cyanosis and dyspnoea, recovery may take place, and the patient live for many years in comfort.

When the lesion is due to dilatation of the ventricle, causing a relative incompetence, the prognosis will depend upon the cause and the age of the patient. If due to some acute condition, such as typhoid fever or diphtheria, or if occurring in the course of anæmia or alcoholism—if it be in early adult, or even later life, complete recovery is often possible.

If, however, the dilatation is the result of coronary arterial disease, a lesion of middle life, the prognosis is very unfavorable.

Many cases of mitral systolic murmur, occurring at or after middle life, may exist for upwards of twenty years without change or discomfort. In such cases the murmur is due to roughening and thickening of the valves, the actual leakage being little or none. Here the prognosis depends, not so much on the valve condition as upon the attendant conditions, viz., general arterio-sclerosis.

In all cardiac valve lesions, no matter of what variety or degree of severity, particular attention must be given to the character of the pulse as regards its tension and frequency. A high pulse tension is, in many individuals and families, a constant condition, even in the absence of any pathological change. Should a valve lesion develop in such an individual, the prognosis would be much less favorable than in an individual with a pulse of low tension, for with high pulse tension the heart will be less able to overcome the valve defect, or, having done so, will break down much earlier. To a less degree the same may be said of one whose pulse rate is habitually much above the average.

By a careful consideration of all the facts in each case, as above indicated, there is no doubt that a considerable number of those possessed of some of the valve lesions could with safety be insured.

In this connection it is to be borne in mind that little must be known of the length of the latent period in many of the subjects of valvular affections. By the latent period one means the length of time elapsing between the establishment of the lesion and the onset of cardiac breakdown.

Observations of the first event are common enough, occurring, as it does, in an attack of rheumatic fever, or other acute disease, but it is only when the second event occurs that the case is again brought to notice, and the duration of the condition can be thereby determined.

Just what percentage of cases, in which a valve lesion once established never gives rise to any symptoms throughout a long life, is unknown. An appeal to the post-mortem records of hospitals will not give an accurate answer, for an undue proportion of such subjects are the victims of poverty, and of vicious habits, conditions which would not apply to the class of persons able to buy life insurance. Every physician, however, of experience has knowledge of cases where, notwithstanding the existence of some valve lesion, which has probably been present for a long period, no inconvenience has resulted, and life has been ended by causes quite apart from the cardiac defect.

In this connection the following brief outline of a case, under my observation, may be of interest

Six years ago a farmer, aged 33, consulted me for some dyspnoea, precordial distress and rheumatic pains. His family were rheumatic, and his father had died about the age of sixty of some cardiac condition. He himself had had two attacks of rheumatism, the first one fourteen years previously, the second two year previously to the time I saw him. In both attacks he had suffered "pain in the heart." At the time I saw him he was disturbed by various subjective complaints, as he was markedly neurotic.

The cardiac condition was of great interest. He had a loud, high-pitched, musical diastolic murmur, which he himself could hear quite distinctly. It was heard from the second rib on the right side down the sternum, and one almost to the nipple line. The pulse was soft and a capillary blush in the fingers and the forehead. The heart was not enlarged, and the pulse did not indicate hypertrophy. The rhythm and site of the murmur pointed to aortic regurgitation. I have seen him at intervals ever since. One year ago the murmur could hardly be detected, then only on exertion, or on taking a full breath. For the past six months it has been entirely absent. In every respect the heart and blood vessels are absolutely normal. There is no increase of the pulse tension, or of cardiac dulness, or strength of pulse, such as might signify the possible transition, of a regurgitant lesion to a stenotic one.

As he is at present, one unacquainted with his past history would, without hesitation, admit him to life insurance on the usual terms. This case is all the more interesting in that the lesion was the most serious of all the valve lesions, viz., aortic regurgitation.

To conclude, I might cite a number of cases which I have been watching for years, subjects to mitral disease, and in whom there have been, as yet, no evidence of cardiac embarrassment.

LIFE INSURANCE, ITS MEDICAL AND FINANCIAL IMPORTANCE.

By JAMES THORBURN, M.D.,

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LIFE insurance, as now conducted, is one of the most important institutions of our time. The history of life insurance is not new, for we find that as far back as in the days of Pliny, long before the Christian era, fraternal orders cared for the sick and infirm.

To insure men against the contingency of death demands that laws governing mortality shall be thoroughly understood, and that influences leading to unusual or extreme fluctuations in such mortality shall either be absent or reduced to a minimum. Nothing is more uncertain than human life when taken individually, but by grouping a large number of lives the approximate period of longevity for each age can be determined with great accuracy. Even our favorable modern conditions of human life are constantly being improved by prudent sanitary laws and other conditions. The new Mortality Experience Table, which has been handed down to us by the Institute of Actuaries of Great Britain, and

* Written for the Ontario Medical Meeting, held in Toronto, Ont.

involving a labor of almost ten years, reflects the most modern view of longevity among assured lives. It is interesting and gratifying to observe that, on the average, the expectation of life is about two years greater than in the former experience tabulated by this body in 1869. Our forefathers did not enjoy the same sanitary laws that now exist. Many of them lived in houses entirely devoid of ventilation, such as chimneys, fire-places, sleeping in drafty and ill-ventilated rooms, improperly heated and imperfectly lighted. It is only at the beginning of the last century, by paying attention to nature's well-established laws that any material change took place in the preservation of health and prolongation of life. Our dwelling places are now built with the idea of comfort and health, and not merely for external appearance. Very much, however, is yet required in the matter of drainage and ventilation, the removal of cess-pools, and in personal cleanliness. The defects referred to and many others were oftentimes due to the ignorance of the general population, but the more enlightened and educated we become the greater will be the improvement in longevity. I need not remind you, gentlemen, in the treatment of diseases, that the importance of sanitation and hygiene by medical men has been greatly improved within the last quarter of a century. Fresh air and sunlight were looked upon with horror by the nurse, and oftentimes by the medical attendant.

We are all familiar, I am glad to say, with the improvement that has taken place in that period in the drink habit. In polite society it is no longer considered important, or the "right thing" to have wine or spirits on the table at dinner.

For a number of years applicants for insurance were admitted without any medical examination. The judges were laymen who knew little or nothing of the ailments of human life, and the indications of present or near future disease. All this has been changed, and no one is now accepted without an examination by a duly qualified physician. The form of medical examination contains a number of questions, the objects of which are to assist the examiner in determining the insurability of the applicant and his probable expectation of life. There appears to be a mistaken idea with some of the examiners, in that they consider their duty performed when answers are given to the questions propounded. This is not the case. It is the examiners' duty to probe beyond the mere formal questions if they do not happen to elicit the information required.

I think I can say, without fear of contradiction, that life assurance companies, as a whole, contribute more to the incomes of the medical

practitioners of this continent than any other employer. During 1903, I estimate that the profession in Canada received from our life assurance companies for medical examinations of applicants about \$300,000. In this I have not considered the large amount which is paid by fraternal and benevolent societies for the examinations of their candidates. In the United States, the figures will be much larger—not less, I believe, than \$5,000,000. These are large sums and indicate at least two things: (1) The increasing importance of life assurance in the community, and (2) the increasing influence of the medical examiner.

As a rule, medical men are men of high character. It is not advisable to have too many medical examiners in any one place. This is most satisfactory to the head office, and eventually prevents the agent from employing outside examiners; and, besides, what is everybody's business is nobody's business, and I know from experience that when this rule is followed the medical men take greater interest than they could from the examination of a casual applicant. They become identified with the company for which they are working, and another fact I wish to impress upon the younger members of the profession who may be present, that so long as they do their work faithfully and honestly they will be defended by the head office, and not be subjected to the whims and petty annoyances of those who are of an incompetent to form an opinion.

The selection of a medical examiner for a life insurance company is not made without very careful consideration. There are certain qualifications that are absolutely necessary for an examiner to possess in order that he may fulfil his duties with credit and honor to himself and the company he represents. It is not essential that he be a "specialist" in any particular branch of the profession; he should, however, have professional ability and high moral character, as well as some experience. He must not only be well-posted in his profession, but he must be a keen observer of character, possessing wisdom and discretion, neither too light nor too grave, too familiar or too distant; he should be incorruptible and unflinching. His professional attainments alone are not the most important qualifications of a medical examiner. He should be quick to detect imposition, courteous, combined with firmness and decision.

The condition of mind of an applicant for insurance is quite different to that of an ordinary patient; the latter is always ready, willing and anxious to give all the information he may possess relative to his conditions; yea, exaggerating his symptoms, thus necessitating the physician weighing everything before forming an opinion. The applicant oftentimes withholds and denies important facts in regard to his family and personal history, and the statements of such a party must

be carefully analyzed and considered by the examiner, as well as all other information that can possibly be acquired, before a proper opinion can be offered as to the eligibility of the applicant for insurance. Let it never be overlooked that the medical examiner is the representative of the company employing him, and not the representative of the agent or the man seeking insurance. He is paid his fee by the company no matter whether the applicant is accepted or rejected. In giving his opinion, therefore, the first consideration must be the company. The question arises as to the value of the risk—is he a good risk, or is he a bad one? Now health, strictly speaking, is a relative term, and, therefore, we must not approximate it from tabulated experience. We must form our opinion after having made our examination of the family history and the condition of the applicant himself, including occupation, environment, etc., and as to the probability of the man living to his expected time. On the other hand, there are certain diseases or conditions which either entirely preclude insurance, or which will only allow an assurance on some modified plan. These conditions may relate to the applicant himself, to his ancestors, or surroundings, including occupation and habits. Hence, we have classified risks into those that are insurable at ordinary rates, those that are conditionally insurable, and those that are not insurable on any terms. For instance, a person suffering from consumption or other serious disease, or following an occupation dangerous to life, or whose habits of life are vicious, or whose family history is very weak, as a rule, is not insurable.

I would like to say a few words about the relation existing between medical examiner and agent. The medical examiner should always bear in mind that the agent who procures the application is entitled to consideration. He has to work hard, in most instances, to get applications, having frequently to overcome prejudices, competition and other obstacles. The medical examiner should on all occasions where it is possible accommodate the applicant and agent as to time and place of examination. If this be not done, serious loss frequently result, not only to the company, but also to the agent, who has devoted much time and expense in procuring the application. In these days of competition it is essential that the examiner be not indifferent to the actual conditions existing. When possible the agent should bring the applicant to the doctor's office; if he cannot induce the applicant to do this, the examiner should not allow the case to be lost because of his neglect to visit him in his own quarters. I speak from a long experience in life insurance, that by mutual concessions and courtesies, there should be little or no difficulty in procuring a fit time and place for the medical examination.

The money consideration is not small, and it has some important features connected with it. The fees received from the regular life companies are fairly remunerative and are always paid promptly. Some medical men object to a classified fee, but they must bear in mind that it is impossible to pay the same fee for \$1,000 insurance as for \$5,000 or \$10,000. In these days of close competition every dollar spent is calculated, and at the end of the year makes quite a difference. It is notorious that a great number of medical men make examinations for assessment societies and fraternal orders, and other contract practices, at a far less fee than the examination fee of the ordinary life insurance company.

Although the agent's commission seems very high, and is, still the habit is so common of making rebates in order to obtain business that the agents, as a rule, are not as well off at the end of the year as when they only received one-half the amount of commission that they receive at the present time, which is generally due to the fact of rebates which are so common, and, I think, that the companies have just cause in endeavoring to get our Legislature to forbid such practice, and make the taking of a rebate a punishable offence. This would be far better for the applicants, as well as to the interests of all concerned, if it were faithfully carried out.

The importance of life insurance has been recently prominently brought forward before the teaching bodies in our medical faculties, and most colleges make it a part of their curriculum that a short course on life insurance should be included, and I am glad to say that at a recent meeting of the College of Physicians and Surgeons of Ontario this suggestion was considered, and, I think, approvingly.

The growth of life insurance in Canada during the past twenty-five years may be said to be phenomenal. Let us consider for a moment the tremendous strides made. In 1878 the new insurance effected by all companies—Canadian, British, and American—amounted to but \$12,000,000. Last year, or in 1903, the figures reached \$92,000,000, or an increase of \$70,000,000, in the comparatively short period of twenty-five years; but not only has the yearly volume of new business made great gains, but the total aggregate insurance in force has increased with leaps and bounds. At the same time, 1878, we find that the aggregate insurance carried by Canadians in our regular companies reached \$85,000,000; now, at the close of 1903, these figures have been increased until they reach no less than \$548,000,000. The amount invested by Canadians in life insurance is also interesting, and to many will, no doubt, be astonishing. Twenty-five years ago the amount of insurance premiums aggreg-

gated \$2,600,000; in 1903, they totalled \$18,200,000, or just about seven times what they did twenty-five years ago. I mention these facts to you, not only to indicate the growth in the past, but to allow you to imagine the tremendous proportions to which life insurance is likely to reach in the next quarter of a century.

In conclusion, gentlemen, I thank you for the attention which you have been pleased to give me, but when I look over the list of names of those who are to speak on the subject, I am sure many valuable suggestions will be made, and I do not think it advisable to dwell on the subject further.

EXPECTANCY OF THE LIFE IN MORBID CONDITIONS OF THE GENITO-URINARY SYSTEM.*

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I HARDLY think the idea outlined on the subject of these short papers on life assurance by different men, and designated "Expectancy of Life" in morbid conditions of the various symptoms, is to be taken literally. Expectations of life is practically an actuarial question. It indicates the average number of years which is lived by all persons of a common age from that age up to the extremity of life, and it has no relation whatever to the most probable lifetime of any given individual. Medical examiners should, therefore, guard themselves from forming the opinion that a proposer who is likely to reach his expectation is entitled to rank as a first-class life. I think the title is rather to be used as a guide in dealing, as one sees best in the time allowed, with the subject from an insurance standpoint.

Genito-urinary diseases, as causes of death, given by the Mutual Life Insurance Company, of New York, in the celebrated report on their mortality statistics, show 3,951 deaths in a period of fifty-six years, in which all the deaths from all the causes were 46,525. Two diseases were responsible for the vast majority of deaths, and these statistics are borne out by those of the company, of which I am medical director. Two diseases, or titles, of this class seem to have paramount importance—Bright's disease and disease of the prostate gland, with the resulting inflammation of the bladder and pelvis of the kidney. Renal and vesical calculus were responsible for ninety-five deaths; stricture and undefined diseases of the kidney for a few cases. I propose to eliminate both these chief factors of mortality from my paper, because disease of the prostate, in its interesting surgical aspect, is to be discussed by capable men at

*Read at the Ontario Medical Association, June, 1904.

this meeting. That they will speak most hopefully of successful surgical interference I feel sure; that any such success tends to lower mortality from this cause, or at any rate to defer the time of dissolution of aged policyholders to the benefit of the insurance companies.

Bright's disease, or albuminuria, is a very charming and difficult subject to the medical director. The applicants in this connection are those of large interests, successful men, able to take large insurance policies; think they are in the best of health, and very often agents seeing them cannot understand why they are not acceptable to the company. This subject was, I understand, touched on lately, and, therefore, I thought I could, for a brief period, speak of a general disease complicating life insurance, namely syphilis. I think a good deal is to be done in investigating and collecting information as to the effect that syphilis has on life insurance (I find very little in medical literature on this aspect of it), before we will be in any position to assign it to a true place. The object of this paper will be attained if I draw the attention of examiners to the necessity of close examination in all cases where syphilis has been thought to have been present. Usually the practitioner looks at syphilis in another aspect. The phenomena are actually present; his energies are directed to advising the best means of treating the initial lesion, especially if it should assume an unfavorable type, or in a long war against the general infection or secondary symptoms to prevent their far-reaching effects in the years after. But now he is asked to assure himself that syphilis has been present in the applicant; that he is free from all traces of it. It is not difficult to mistake or confound a chancre or chancroid, and even unimportant sores, like herpes have been designated, syphilis by the unskilled physician or quack, who is not infrequently consulted in such infections, thus most unfairly putting a lasting stigma on the applicant. This shows the necessity of a close examination, and inquiry to determine the number and position of the sores, looking for cicatrices of the same; searching the inguinal glands and the lymphatic glands for evidence of enlargement or operative measures; if enlarged, whether suppuration followed or not. The extent to which secondary manifestations have developed; was treatment used; for how long; did any recurrence of symptoms follow the cessation of treatment. By such care a pretty clear confirmation of the applicant's statement may be obtained. Now and then it is possible—often it is not—to have a statement given by the medical attendant who treated the applicant as to his symptoms.

This first step of making sure that the applicant has really been the victim of a true syphilitic infection being completed and decided in

the affirmative, we are confronted with the question, "What influence and what bearing has syphilis on the acceptance in life assurance." This is not an easy question to answer; there are so few data as yet gathered, so far as I am aware, that help; the literature of the subject of syphilis deals with nearly every other phase of the subject pretty fully, but only meagerly with this special aspect. Not long ago many life assurance companies were disinclined to accept any applicant that had syphilis; gradually this was felt to be too stringent and severe a rule, but no satisfactory basis has, so far as I know, been arrived at; each company deciding, according to the experience and personal opinion of the medical directors.

In deciding this question, the curability of syphilis, and the permanence of that cure, is a matter of extreme importance. This question is still a matter of difference and doubt. Let me quote a few extracts from those whose opinions are well worth considering:—

Berkeley Hill, writing in 1881, roughly divided his cases into curable and incurable. The curable got well in two years, the infection exhausting itself in that time; the incurable lasted an indefinite number of years.

Ricord, the great French authority, is very sanguine when he says, "Syphilis recognized is half cured."

Pye Smith says, "In the immense majority of cases a person who has had syphilis is, after a few years, free from it in every sense in which it can be said that one who has had scarlet fever or smallpox is free from that disease."

Gowers, on the other hand, is far from being convinced of its curability when he says, "There is no evidence that the disease is or ever has been cured."

No doubt the destructive tertiary lesions are much rarer now than in former times, but not infrequently their terrible effects are still seen on the nervous system, the viscera, the arterial system, and so we get paralysees, monoplegia, paraplegia, hemiplegia of different kinds, due to deposits of syphilitic material and proliferation of the same. Gummata in the brain itself, or its membranes, or deposited in the walls of the vessels, interfering with the cerebral circulation, often causing miliary aneurisms, leading to apoplexy and hemiplegia.

In the spinal cord, gummatus infiltration, localized deposits, occur with resultant paralysis. Locomotor ataxia in many, if not in nearly all, is probably of syphilitic origin. Similar results follow deposits and degeneration in the arterial system leading to aneurism in the viscera, especially the liver, kidneys and lungs, also the larynx.

The appearance of tertiary lesions prematurely in the early months after infection is a very unfavorable prognostic sign. It is often supposed that the tertiary symptoms are apt to be late in occurring, and, after the first outburst of the disease has subsided, there will generally be a long period of latency. This may be so, but in the majority of cases the tertiary lesions appear within a few years.

Dr. Ogilvie has shown that the greatest liability to tertiary symptoms is during the first three years. The only statistics I can find on this point are those given by Fournier. He says, "The following are the statistics, based on 2,395 cases, in which the date of invasions of tertiarism, under all forms of manifestations, could be determined exactly:—

During the 1st year	106 cases.
" 2nd year.....	227 "
" 3rd year	256 "
" 4th year.....	229 "
" 5th year.....	205 "
" 6th year	201 "
Total in six years.....	1,224
From 6th to 10th year	499
" 10th to 20th "	513
Above the 20th	129
Total	2,395

For being able to find these statistics I am indebted to Dr. Marsh, of the Mutual Life Assurance Company, New York.

This shows that if tertiary symptoms follow they will do so in more than one-half of the cases in six years, and nearly in 75 per cent. in ten years.

Further, it is necessary to remember the incident of syphilis in other diseases and constitutional states. While it is strongly held by some that the prospect of a patient with acquired syphilis is more likely to suffer from cancer or tuberculosis is exceedingly small, it is difficult to divest one's mind of the feeling that it is not a negligible factor.

Having thus briefly outlined the special care in determining the accuracy of the syphilitic history, the direction in which the danger is to be looked for, and the most probable time of its coming, the question remains: Can syphilitics be insured; if so, under what circumstances and conditions? If it be established that an applicant had syphilis, it is a distinct impediment to acceptance on ordinary rates. But if treatment has been efficient, and a period of not less than five years has elapsed since all symptoms have disappeared, he might be accepted, endowment assurance to be preferred. All such applicants should in all other respects be up to the full standard of health and physique.

Perhaps the most recent statistics in connection with the mortality of applicants for life insurance, who in their applications gave a history of

syphilis, is published by the Acturial Society of America in connection with its mortality investigation of special hazards.

This investigation contains the mortality experience of all leading Canadian and American companies upon certain classes of risks. Among these were those cases showing a history of syphilis. Here we have the largest and most recent available mortality statistics of persons giving a history of syphilis.

This experience shows that of persons whose ages at entry were 16 to 28, the actual deaths were 105 per cent. of the expected; while those insured at ages 29 to 42, the actual number of deaths were 134½ per cent.; in other words, 34½ per cent. more than was expected by the table. From ages 43 to 56 the actual to expected deaths was 153.3 per cent. of the expected, while from 57 to 70 it was 101.6 per cent. Taking all ages and duration of policies together, the experience showed that the mortality was 133.3 per cent. of the expected; in other words, one-third more than was naturally expected, according to a table of average lives.

From these figures it will be seen that the extra mortality increases with age up to a maximum at 43 to 56 at entry and then decreases.

These figures clearly show that a company, composed of persons whose acceptance by that insurance company showed a history of syphilis, experiences a mortality higher than the regular premiums provided for.

These figures also show that too careful inquiry cannot be made by the local examiner when examining an applicant for insurance, and full information should be communicated to the medical directors of the company in cases where a history of syphilis is suspected or discovered.

EXPECTANCY OF LIFE IN MORBID CONDITIONS OF THE RESPIRATORY SYSTEM.*

By EDWIN RYAN, M.D., Kingston, Ont.

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IN valuing the expectancy of life in conditions of the respiratory tract, it is all important to have regard for every element bearing upon the hereditary, social and moral aspects of the life in question. There can be no denying the fact that heredity plays an important part in the conditions of the respiratory tract. The old dictum of Heine, "We cannot be too careful in the choice of our parents," should always be before our eyes in dealing with this complex question. It is contrary to the natural law that we can in any manner escape our hereditary predispositions.

* Read at the Ontario Medical Association, June, 1904.

In reference to hereditary diathesis, this also may be laid down to that acquired disease, and the effects caused by disease cannot in general be transmitted in such a way that the offspring presents lesions identical with those produced in the parent. There is the possibility of a certain amount of transmission, not of the identical lesion caused by the disease in the parent, but by a modification or impaired condition of the germ plasm. We must recognize that constitutional disease, by leading to disturbance in the activity of the important organs, plays not only directly upon these organs, but, secondarily, upon other organs; that it leads, for example, to altered conditions of the blood, and so to altered nutrition of the cells of the body. Many other cells—the germ cells—may be directly affected, their idio-plasm modified, and the offspring directly influenced. Conditions affecting the parents are capable of influencing and modifying the descendants. It is this which is forcibly brought home to us in our medical work. It is changes of this order which are almost invariably unsuspected by the biologists, for they are not within their ken. The changes brought about in the tissues by what is assigned chronic intoxication may be so slight as to be unappreciable. Microscopical examination may reveal nothing; only by their physiological effects can their existence be recognized.

It would be absurd to argue that the immature germ cells lie absolutely dormant in the organism; they need nourishment; they assimilate; and, should they absorb circulating toxins, their idio-plasm must be affected by this act.

Parental intoxication, therefore, is seen to be capable of directly affecting the germ cells, and, if there be no direct transmission of the effects of such intoxication, certainly there are indirect effects.—*Adami*.

It seems clear, therefore, that conditions, affecting the "Respiratory Tract" in the parent, of whatever character they may be, influence to a greater or less extent the value of any risk. The fact that since Koch discovered the tubercle bacillus, and the contagious character of the disease has become known, the death rate has steadily diminished, does not alter the situation. The death rate from tuberculosis was decreasing before Koch's discovery; it has been decreasing for the last half-century, and is, no doubt, due to sanitary conditions, and to the improved social and moral life on all sides. We now observe a marked rebound on the part of insurance examiners from the position obtaining a short time ago. Every medical examiner now recognizes there is no factor in life insurance of more importance than a family history marked by tuberculosis. The experience of the United States Life Insurance Company for twenty-three years shows that 27 per cent. of their mortality was due

to consumption. Equally striking is the table prepared by the Mutual Life Insurance Company. Dealing with their entire mortality during the fifteen years, from 1879 to 1893, which amounted to 22,085 cases, up to twenty-nine years of age, the mortality was 35.8 per cent. of all cases in non-consumptive families, and 45.6 in families with a tainted record. In the next decade 26.3 and 39.6; in the next 17.6 and 24.6; in the next 6.7 and 15.7; in the next, that is, from sixty to sixty-nine years of age, the ratio was 5.8 and 8.2. A more recent tabulation of the mortality in this company, from 1843 to 1898, covering 46,345 cases, gives to tuberculosis 5,585 deaths, a percentage of 24.27 under forty-five, 10.88 between forty-five and sixty, and 4.03 above sixty years of age. Of late years, however, it has been proved that a bad family history may be largely neutralized by a good personal record, the chief indication being the weight of the applicant.

Dr. E. J. Marsh has made this very clear in the table referred to, and from it he is led to the following striking conclusion:—

1. That the history of consumption in any member of the immediate family increases the probability of its appearance in an applicant.

2. That consumption in a brother or sister is at least of equal importance as when it has occurred in a parent.

3. That persons who are under the standard or average of weight are much more liable to consumption than those above this standard, while the peculiarity of constitution which is indicated by the inability to take and assimilate a proper amount of nutriment, indicated a susceptibility to phthisis, or at least is a reasonable suspicion of such predisposition.

4. That persons who exhibit a robust and well developed body have little susceptibility to consumption. That the personal conditions of weight and robustness has afforded more value than family history. The evidences presented by a well-developed body may outweigh the suspicion attached to an unfavorable family record.—*McPhail*.

It does not change the aspect of the question to say that the death of applicant's relatives was brought about by "consumption of alcohol." In fact, that makes the situation all the more serious, for here there is a double inherited tendency.

In connection with all conditions affecting "The Respiratory Tract," the applicant's occupation, his social and moral surroundings, and his own habits of life have a most valuable bearing. There can be no question of doubt but that a well-regulated mind and body form a strong protection against an hereditary enemy. The same can be said, too, with regard to a purely acquired disease. If an applicant has suffered from,

say, bronchitis, or pneumonia, or pleurisy, the conditions that govern his life, subsequent to these diseases, must certainly be taken into account. Those who live an out-door life, whose occupation affords them plenty of pure clear air and healthful exercise, certainly cannot be placed side by side with those who are working in the contaminated air of mills and factories. As already pointed out, too, the present bodily condition of the applicant, whether he be well-nourished, etc., must have an important bearing.

All conditions, such as enlarged glands, cough of any character, hoarseness, the strumous appearance—disease, indeed, of any kind, or occurring at any time of life—must greatly influence us in arriving at an intelligent decision. The presence of catarrh in any form, nasal or naso-pharyngeal, merits the closest inspection.

Coming now to the specific diseases, let us consider each in question. Hoarseness, of course, may not have any direct bearing, but its specific cause must always be determined, and its presence should always be regarded with an unqualified suspicion. No applicant, who is subject to hoarseness of any duration, should be admitted.

Asthma, while it may be due to other than respiratory causes, in time has an influence on the respiratory tract. Asthma most decidedly has a strong bearing on the expectancy of life. If there be any hereditary tendency to tuberculosis, or other lung affections, asthmatics should not be accepted, nor should persons over forty-five years of age be regarded as insurable if they have any tendency to asthma. In young subjects, if the attacks are at long intervals, the disease, of course, is not so serious.

Emphysema forms a bar to insurance. The expectancy of life in subjects so affected is, to say the least, very problematical.

Pleurisy, if a long interval has elapsed, and if careful examination reveals no present lesion, may not debar an applicant. But there can be no doubt that pleurisy, if not due to tubercle, greatly influences the oncoming of that disease. Those who have had pleurisy must be examined with the greatest caution. Even then recent cases should be excluded.

Bronchitis, if long continued, or if repeated, lowers the tone of the "Respiratory Tract." An applicant who is subject to repeated attacks of bronchitis, will not likely fulfil the expectancy of life.

The occurrence of hæmoptysis also needs to be carefully considered. Indeed, unless there is some indication of trauma due to a heavy strain, such as lifting, etc., it is nearly always associated with incipient phthisis; and, no matter from what cause it is due, it seems to me reasonable that it leaves permanent injury to the lung.

Pneumonia may not influence the expectancy of life if it runs the regular course. Repeated attacks of pneumonia reduce the vitality of the lung. Broncho-pneumonia, or pneumonia of any form, where resolution is unduly prolonged, influences the expectancy. Great care must be exercised in these cases.

THE NERVOUS SYSTEM IN RELATION TO LIFE ASSURANCE.*

By H. C. SCADDING, M.D.
Canada Life Assurance Co., Toronto.

BY the kind permission of the management of the Canada Life, I am permitted to present to you some tables, based upon the claims from diseases of the nervous system during the last four years.

The taking out of the mortality statistics in the past, has been, though very instructive, a very laborious business. The introduction of the card system to aid in this particular has been a great boon.

With the aid of our able actuary, Mr. Sanderson, a claim card was designed, upon which has been recorded the particulars of the risk as it became a claim, and which, we trust, in the future, will provide interesting material from the medical standpoint in life assurance.

Unfortunately, there did not appear in the earlier medical forms certain questions which we now deem important, and so, for many years, we cannot expect to reap the crop of information which we at present think would be of interest. Perhaps, at the end of twenty years, with the advance of medical science, we will then regard as useless what we now think to be essential.

Great care is now being taken to obtain by special form, and supplementary inquiry from the head office, the actual cause of death, and as greater accuracy of report is being attained to, owing to increasing knowledge of pathological processes, the returns are becoming correspondingly less indefinite. "Dropsy," as a cause of death is now rarely if ever, returned; and "paralysis," though still frequent, is much less so year by year.

It is possible, of course, that many deaths returned as "apoplexy" are in reality "cerebral softening," or *vice versa*, but considerable care has been taken to classify the causes from the histories of the fatal illness, and I think the result fairly accurate.

There are 221 cases in all, and they represent 17 per cent. of deaths from all causes. Of these, as it is expected, the apoplexies contribute 10

*Read before the Ontario Medical Association, June 16th, 1904.

per cent.; cerebral softenings, 3 per cent.; general paralyses, 1 per cent.; meningitis, 1 per cent.; and of the other brain and cord affections, each less than 1 per cent.

I hope not to weary you with statistics, and, inasmuch, as the figures are "small," I trust that you will permit me to make short reference to them.

Perhaps the most noteworthy facts brought out by this small series of cases are that the largest proportion—32 per cent.—of apoplexies occurred in the age group 55 to 64. The average age at entry being 41, and the average duration of each life 21.87 years. Sixty-nine and 31 per cent. of the general paralysis occurred in the groups 35 to 44 and 55 to 64 respectively; the average age at entry being 32, and the average duration of each life being but 14.83 years.

Most of the diseases of the nervous system, for which the medical examiners for life assurance are concerned, are so closely linked with disorders of the vascular system that it is impossible to dissociate them.

The cerebral apoplexies, for instance, which form by far the greater number of deaths ordinarily classed under the nervous system, are, of course, primarily due to disease of the brain vessels; and the general paralyses, which also contribute largely and expensively to the mortality, are, without doubt, dependent upon an imperfect or vicious blood supply.

The acute affections of the nervous system, such as meningitis, occur in the main early in the policy life, and may be compared to the pneumonias, etc., the mortality from which cannot be influenced by medical selection. The same may be said of the cerebral softenings, the claims occurring in the late policy years.

Influence of Medical Selection.—It is common to regard five years* as a period wherein the influence of medical selection is felt. In the mortality statistics of the Mutual Life of New York, extending over a period of fifty-five years, and embracing 46,525 deaths from all causes, Dr. Marsh points out that, while deaths from Bright's and heart disease are diminished during at least part of that time, apoplexy and allied affections "give very little indication of being subject to control by medical selection, the company's mortality being almost as high in the first year after insurance, as at any subsequent period."

While consumption was, generally speaking, held to be the greatest foe to life insurance during the period to which these figures have reference, and while evidence of Bright's and heart disease were sought for with more or less care, how little attention was paid to diseases of the vascular system by the examiners, and how little weight

* This has been recently extended.

attached by the medical advisers to a family history of arterio-sclerosis, gout, rheumatism, asthma, or neuropathic manifestations!

It is a matter of common belief, although it is impossible to demonstrate the fact, that the prevention of apoplexies has been effected by timely advice to patients in whom the medical attendant has found diseased vessels, and it would seem reasonable that as examiners become more alive to the necessity of, and better versed in, the examination of the vascular and nervous systems, and as medical advisers give more weight to the effect of heredity in such affections, so surely will the influence of medical selection be felt, not only in the first five years of policy lives, but perhaps, to some extent throughout.

Unfortunately in the cases referred to in the tables under the heading of "General Paralysis," there was no history given of syphilis—no particular question as to this very serious disorder entering into the earlier medical forms. That syphilis is the predisposing cause of paresis and tabes is now a matter of very general consent. What wonder, then, if we advise our companies to decline to accept risks on standard plans, wherein there is a past history of syphilis, a neurotic taint in the family, and an occupation liable to prove the exciting cause of a general paralysis in the early policy years, and, escaping that, a tabes but little later in the policy life.

Perhaps, a recapitulation of the important points in the examination will be of practical utility.

Family History.—Heredity undoubtedly plays a most important role in determining the life expectancy of those whose antecedents suffer, or have suffered, from disease of the nervous system. How commonly epilepsy in the father is followed by insanity in the offspring; hysteria in the mother, by epilepsy or other neuroses in the child; and insanity, or that which predisposes to it, alcohol, in both parents, followed by idiocy in the offspring!

Perhaps the remote family history has a greater bearing on the outlook, as regards the nervous system, than it has upon any of the other important systems. Mental disorders, like gout, have a tendency to skip a generation, making their appearance in the first and third generation, and leaving the second apparently untainted. When there is a suspicion of neuropathic liability, it is undoubtedly important to obtain the collateral family history, and to question closely as to whether there are, or have been, any cases of mental alienation or other serious neuroses.

Diabetes and Bright's disease, gout and rheumatism, occur so frequently in neurotic families, that due weight must be given to these when they appear in the family history of the applicants showing even

slight tendencies to disorders of the nervous systems. It will, therefore, be apparent how important a matter it is to obtain as definite information as possible regarding the family history.

Habits.—If heredity is the primary predisposing factor to be considered in determining the resistance of individuals to disorders of the nervous system, alcohol is a good second, with syphilis pressing it hard for the place.

The importance, therefore, of accurately reporting the habits cannot be over-estimated. The difficulty of so doing is often very great, and greatest usually in those cases where accuracy is most important, owing to the unreliability of those applicants who are given to over-indulgence. Great as the difficulty is, however, it is a bagatelle compared with that with which the medical director of the insurance company is confronted when he endeavors to estimate the risk on such expression as "no habit," "drinks when he feels like," "occasionally," and a host of other indefinite terms.

The Reflexes.—While the reflexes which interest neurologists are far too numerous to mention in an ordinary discussion on life insurance aspects, yet there are certain well known ones that are of the utmost importance, and should be tested in all cases coming before the medical examiner.

The absence or alteration of the pupillary reflexes is easily discerned, and gives most valuable information as to the integrity of the centres or of the sensory or motor branches of the arc.

If the knee jerk appears on the common test to be absent, a more careful examination should be made before pronouncing it to be abolished. While the applicant is seated upon a table, so that the feet do not touch the ground, his eyes closed, limbs bare, and hands firmly grasping the edge of the table; the examiner taps the tendon with a percussion hammer, or the ulnar surface of his hand, the other hand grasping lightly the leg above the knee, If not absent, is the patella reflex increased or diminished?

The absence of the heel tendon reflex is an early indication of tabes. The ankle-clonus is also indicative of disease.

The presence of the "Romberg symptom" indicates static ataxia, and should always be searched for, it being just as important to know that there is perfect balance of muscular action as it is to determine muscular power or paralysis.

Any peculiarity of gait or attitude should be observed and recorded, as it may indicate pathological conditions. If the handwriting is ataxic or tremulous, further examination as to the cause is desirable.

Use of the Ophthalmoscope.—The use of the ophthalmoscope may be thought to be an unnecessary refinement of examination; yet a number of early manifestations of serious affections it alone may reveal. In cases and places where it would seem to be most useful however, *e.g.*, prosperous proposers, past middle life, living in large centres, applying for large amounts on cheap plans for business or family protection, there are fortunately capable ophthalmologists, whose aid undoubtedly should be sought to determine the eligibility of the risk.

Arcus Senilis.—The presence of the "Old Man Arch," or Arcus Senilis, should always be noted, though it is not *per se* of much prognostic value. It has been held in the past to be a sign of fatty degeneration of the heart, but is now regarded in general as a failure of nutrition incident to age. Heredity seems to play some part in the production of this phenomenon. Moore has known a family in which three male members have had the complete arc before 35 years of age, and in a family well-known to myself, the mother and two of three children have well-marked arcs, the children exhibiting it before 30 years of age, and having no evidence of degeneration of heart or vessels. It will, therefore, be seen that taken by itself in determining the apparent age, or the presence of arteriosclerosis, it may lead the examiner into error.

Headaches.—The history of headaches should always be closely inquired into. While some are due to slight disturbances of the digestive tract, which would have little bearing on the life risk, others may indicate the approach of very serious brain affections. The severe nocturnal general headache is most suggestive of syphilitic disease of the arteries of the brain, and the persistent frontal or occipital headache may be the earliest symptom of brain tumor. Migraine or sick headache is not by itself of grave import, but this is so frequently an evidence of inherited neuropathic taint, that it should indicate the desirability of close inquiry into the family history, direct and remote, as to whether there are or have been cases of mental alienation in the ascendants or their relatives.

The eye-strain headache has a most important bearing upon the life, for if not relieved by appropriate treatment, may lead to early claims by nervous exhaustion, insanity or suicide.

Tremor.—Applicants presenting a tremor at the time of examination be very closely questioned in order to determine its probable cause. should Excuse is not infrequently made that a slight tremor of the hand or tongue is due to "nervousness," owing to the fact of the examination, and occasionally this may be true; but its presence should always be

noted on the medical form, or by confidential letter to the company. It may indicate secret addiction to alcohol, when the habits are alleged by the applicant, and believed by his nearest friends to be exemplary.

The character of an alcoholic tremor is too well-known to all to need description. Excessive use of tobacco sometimes occasions tremor; but it is usually accompanied by irritable heart and inflamed throat and other symptoms incident to the excess. Intention tremor, in a large majority of cases, indicates disseminated sclerosis. It is the result of muscular inco-ordination when any attempt at the more delicate movements of the hand is made. Indeed, it is not always confined to the movements in the hands, and it has been noted in the face and in the tongue, and even, according to Starr, in the vocal cords.

The tremor of paralysis agitans is unmistakable, beginning ordinarily in one or both hands, and being slow and rhythmical and ceasing during sleep, but being constant while at rest.

Occupation.—There are certain occupations which must be taken into account when examining the nervous system. Not only are some occupations of manual laborers inimical to life through the involvement of the nervous system, but also the callings of those in the higher spheres of life—individuals exposed in ill-ventilated work-shops, to the poisoning of lead, arsenic, etc.; the purveyors of alcoholic beverages and those who, by virtue of constant mental anxiety in business or profession, are particularly prone to nervous break-down. From this last named class the companies sustain the largest individual losses.

It is impossible to frame a medical form particularly covering the nervous system that will give a perfect pen picture of certain proposers, and the medical examiner must be relied upon to amplify the reports in these cases, in order that the medical advisers of the life assurance companies may arrive at a just conclusion regarding the life. A keen observer will always cover the ground with more satisfaction to the company and less trouble to himself than will the less thoughtful examiner. The first will anticipate the doubts and difficulties of the medical director, and will forward at the time of the examination information amplifying his report. The second will receive questions from the home office, which will involve extra trouble to himself, possible irritation of the applicant, probable disappointment to the agent, perhaps loss of business to the company.

THE FINANCIAL RESPONSIBILITY OF THE MEDICAL EXAMINER FOR LIFE INSURANCE.*

By BRUCE L. RIORDAN, M.D.C.M. Toronto, Ont.

Medical Examiner North American Life Assurance Co.; Surgeon to Toronto General Hospital.

MR. President and Gentlemen: The position of a medical examiner for a life insurance company is a confidential one, and it is the duty of the examiner to discharge all his obligations in this respect to the company, carefully, honestly, and to the best of his ability. While one examiner may be more competent to discharge these duties with more skill and competency than another, it is only where negligence can be shown that there is any liability on the examiner from a legal point of view. If the medical examiner discharges his duties to the best of his ability, and exercises due care and precaution, and discloses all information received from the applicant, and carefully records the answers, as they are given to him, to the various questions asked, using his best judgment as to the information which he himself furnishes to the company, his duty is performed, and there is no financial liability upon him in any way to the company, or to the applicant.

It has been decided in the courts that the medical examiner is the agent of the company for recording the answers of the applicant—*Grattan v. Mutual Life Company*, 80, N.Y., 281; 92, N.Y., 274. Therefore, it becomes very important that the medical examiner should be a man skilled in his profession, and of undoubted honesty and probity, as his report would be receivable as evidence against the company, unless in those cases where it could be shown by the company that he was guilty of fraud and deceit, in withholding material facts, either of his own accord, or at the request of the applicant for insurance.

The medical examiner is not the agent of the applicant for insurance.—*Hollman v. Life Insurance Company*, 1, Woods, 674. The facts concealed or misrepresented by the examiner must be material to the contract. If he misrepresents, or does not disclose the correct answers of the applicant, the company is responsible for any damage resulting from such irregularity of the examiner, and there is no doubt that in the event of such irregularity being proved, the examiner would be responsible for the financial loss or damage suffered by the company that may have resulted from such concealment or negligence.

There, however, have been contrary opinions held in cases where the form of application makes the examiner the agent of the applicant, *i.e.*, where the statements contained in the form are declared or warranted to be true, and in one case where such statement was false, and was

*Read at the Ontario Medical Association, June, 1901.

written therein by the medical examiner of the company, the policy was declared void. —*Sternaman v. Metropolitan Life*, 63 N.Y.S., 674, 1900.

The relationship between the company and medical examiner should be one of trust, and such position should be occupied by one who is recognized as being a man of undoubted honesty, skill and thoroughness in the discharge of his duties. In many cases the company may suffer considerable loss in case his obligations are not discharged properly. It has already been decided in the *Provident Savings Life Assurance Society v. Rutlinger*, 58, A.R.K., 528, and other cases, that where the medical examiner fills in false answers to questions, which are otherwise answered by the applicant, but without the applicant's knowledge, and then procures his acknowledgment to the application in writing to these questions by applicant's signature, the company nevertheless is bound and cannot have any recourse under the contract against the insured, but in such case would have an action against the examiner for any damages it may suffer in connection with the contract.

The examiner who writes in false answers in his report may be liable for criminal prosecution, and in many of the states there are provisions imposing a penalty for any such breach; notably in the State of Michigan, he is liable to a fine, not exceeding \$1,000, or imprisonment not exceeding three months, and shall be liable to the company in an action on the case for the full amount of any insurance obtained from such company by means of, or through, such false report—See Michigan Revised Statutes, Sec. 4, 235.

A medical examiner is recognized as the agent of the company only as to that part of the application which he is required to write—*Leonard v. State Mutual Life Assurance Company*; 31 *Law Insurance Journal*, page 584.

The financial responsibility of a life insurance examiner is, therefore, an important question with the company, and an important obligation is assumed by the medical man who examines applicants for insurance.

INFLUENCE OF HEREDITY UPON THE EXPECTANCY OF LIFE.*

By H. R. FRANK, M.D., C.M., Brantford.

THAT like produces like is a fundamental principle. When deviations in structure frequently appear, we sometimes cannot tell whether it may not be due to the same cause acting on both; but when individuals exposed to the same conditions display deviations which appear in the parent, child or grandchild, the mere doctrine of chances compels us to attribute its reappearance to inheritance.

* Read at the Ontario Medical Association, June 1904.

That every unfolding organism eventually takes the form of the class, order, etc., from which it sprang, is a fact which by force of repetition has acquired in our minds almost the aspect of a necessity.

It is owing to the recognition of this principle so definitely enunciated by those masters of observation and research, Darwin and Spencer, that life insurance to-day is the exact institution it is.

Working largely upon this principle, the profession has been able to formulate those laws of mortality without which life insurance would be a speculation—no more and no less. However, having declared the pronounced influence of heredity upon the longevity of a candidate, let us look at the conditions which determine his relationship to those laws of mortality.

We must have accurate information as to his family history, not only the immediate family, but progenitors through at least two generations. We must know his personal history. We must know his habits and environments.

In seeking a just conclusion we find these several conditions so interdependent that it is frequently difficult to arrive at an opinion. It is true he may have an hereditary taint, but we must consider his habits and environments—I mean his regularity in the pursuit of such hobbies as tend to improve his physical and mental conditions, and particularly, a financial standing, which insures his power of indulgence in them.

It appears to me that this phase of an applicant's standing is not sufficiently recognized, for if at the first appearance of an ailment a man seeks and is in a position to follow advice, he is surely not in the same class as the man who is compelled to adhere to any occupation he may be following.

While we recognize the truth of existing hereditary influences, we must not consider alone those working for ill, but must also keep in mind their possible modification through healthy hereditary channels. It is true that mental or physical characteristics may be traceable through generations, but we have to deal with the individual. A man stands, not as the counterpart of his father or mother but as the accumulated influences of generations. Particularly does it seem to me that environment plays a great part in modifying many hereditary taints. Under the influence of modern treatments, we know that we must even now begin to look more hopefully at that most potent of all hereditary influences—the predisposition to the acceptance of the infection of phthisis.

What I wish to be gathered from this, gentlemen, is that while we should be zealous in our endeavors to protect the company from bad

risks, we should not forget that we may be holding from them good business, not to mention the withholding of protection from the candidate. After this has been said and we are cautioned against overlooking those conditions which may modify an hereditary taint, we know that parents exert a most appreciable influence on their offspring. The history as far back as it can be traced should be gone into. Diseases skip generations, and become potent in the grandchildren.

Mental qualities are not, as a rule, very traceable, but the nearer we approach the physical organism, the more active become the influences of heredity, and while the family may have a history of longevity we will find on looking into it that it means a succession of physically and mentally well-balanced progenitors. In the short-lived family we usually find the combined influence of parental taint—the father's predisposition supplemented by that of the mother, and by so much intensified.

We find that that great observer, Darwin, points out the transmission of disorders and malformations, the tendency of a child physically in the likeness of a parent to exhibit the same diseases of that parent, etc.

The disposition of families to contract certain epidemic affections is also demonstrated as well as the appearance at a corresponding time of life of inherited diseases.

Another point to be noticed in considering the question of heredity is the intensification of some traits by transmission, and the complete elimination of others. Examples of these will be placed before you in considering some of the more common diseases in detail.

While we are dealing with the subject in a general way, it would be well not to overlook the fact that a mother may transmit a disease without herself becoming infected, and that certain diseases in the ancestry produce a tendency to certain other affections in succeeding generations.

When we come to consider in detail some few of the more common diseases which are either directly transmitted or where the predisposition is passed on, the most prominent is, of course, phthisis, not only because it is the most widespread of maladies—"a disease of all times and countries"—but also because in considering an applicant's fitness for acceptance, a great many influences have to be considered by the examiner.

When we attempt to consider, with any degree of accuracy, the influences which heredity bears on this subject, we are at once confronted by the many fallacies to which investigation is exposed. Bronchitis,

pneumonia and pleurisy are frequently described as cause of death in parent, grandparent, uncle, aunt or brother. The examiner must carefully look into all such causes of death, and he will frequently find that a parent, etc., who died from pneumonia had been confined to his bed for two weeks, but ailing from a cough for some months before.

We must ever have before us that latent objection on the part of the laity to admit even to themselves that there is existent in the family a tubercular taint. It is not within the province of this paper to discuss the different channels through which tuberculosis may be transmitted whether the bacillus is directly passed on or the tendency to its acceptance.

From a wide comparison of statistics, however, there are some general deductions which are accepted, and are of great aid to the examiner.

That the extremes of life are comparatively free from danger, the most potent period being youth and early manhood; the disease is rarely encountered after forty-five; that when there is a family history of phthisis the disease will, in all probability, appear earlier in succeeding generations; that the inherited tendency is more potent in females than males; that an inherited tendency may be transmitted through healthy parents, they being "silent carriers"; that different forms of the disease run through families, in one case the acute tubercular, in others the fibroid type; that if the taint exists on one parental side only, the potency is nearly two-thirds less than if both parents had been afflicted.

In reviewing the undoubted tendency, whether direct or indirect, that exists to the inheritance of this disease, I think we must more fully begin to realize the great influence that environment plays, both in a prophylactic and curative way. We have all of us seen cases of incipient phthisis, where under proper regime and treatment the disease has been stayed in its progress and finally eliminated.

It is in the consideration of such cases as these that the opinion of the local examiner is not sufficiently consulted. He alone knows the habits, disposition and financial standing of the applicant; and, while it is readily conceded that the company should be protected by a lien or a modified policy, there is no reason, in my opinion, why such applicant should be absolutely refused or placed in the same class as those who are of different habits, disposition or financial standing.

Approaching the subject of the hereditary influence of insanity immediately after discussing phthisis, I do so, feeling that while not so common as many other diseases, its influence is more frequently overlooked than it should be.

The tenacity with which this taint clings to succeeding generations, presenting itself, as it does, in various forms, is worthy of the gravest

considerations. It must be remembered that while the disease may not be transmitted in its primary form, we frequently see in the grandchildren outcroppings of epilepsy, hysteria, eccentricities, and predominating nervous temperaments, I have now under my care three epileptics, cousins, where the three fathers are sons of an insane mother; otherwise the families seem to be in perfect health.

Either parent can transmit the disease and the mother will pass on a paternal influence without herself being affected. It must ever be kept before our minds that the disease generally increases in potency in succeeding generations.

Having spoken of insanity, we naturally drift to a consideration of nervous diseases generally, and find that many of them are hereditary—such as general paralysis, mania, and, according to Charcot, locomotor ataxia, when it has developed in early life.

We are advised by Pollock that, in considering these cases, careful inquiry should be made as to the predisposition of brother and sister to a neurotic tendency; and, if such disorders exist, the applicant should not be accepted, unless he has attained middle life, is of good habits, and has developed no neurotic symptoms,

Epilepsy is undoubtedly a disease of marked hereditary tendency, and, while it may not appear as such, we are almost sure to have some neuroses. The mother's influence in transmission is more potent than the father's; and, in all cases after forty years of age, the applicant may be considered as free from the hereditary influence.

When we come to discuss the heritability of cancer, we are met with a good deal of controversy, but here again we turn to our friend the statistician, and find that it appears in the offspring in something under one-third of all the cases, is most prevalent in middle and advanced life, and has a tendency to appear in the same organ as that affected in the progenitor.

In this habit of appearing after a certain period, as age advances, a contrast is offered to the influence prevailing in phthisis, which we saw decrease after a certain age.

Any attempt on the part of the examiner to trace the hereditary influence of the different forms of carcinoma is practically useless, as it is in the vast majority of cases impossible to get any reliable history.

The accepted directions, in considering these cases, so near as I can find, is that the offspring of a father and mother with carcinoma should be rejected. Where only one parent suffered, and that not imparting the physical type to the child, the applicant may, after having passed his thirty-fifth year, be accepted.

While the prevalence of syphilis is known to medical men to be much wider than the laity suspect, and while, I believe, that it is rapidly increasing as the centres become more thickly populated, and while it is one of those diseases directly transmitted, from the standpoint of the insurance examiner it is of little importance so far as its hereditary influence is concerned, inasmuch as for obvious reasons no history is presented.

With a direct knowledge of the existence of the taint, however there are some points of value, namely, that the disease may appear in the offspring years after either parent has suffered from the original disease. The secondary poison may be transmitted from the father to the mother. The inherited taint protects. The disease does not appear in a third generation.

Rheumatism, heart trouble, asthma, hay fever, and diabetes, present a group which by the insurance examiner must always be considered as having a direct hereditary influence on the character of a risk.

The peculiar nervous phenomena working through and intimately connecting these diseases have not yet been made clear by pathologists, but to realize the existence of such a connection we have only for a moment to consider the figures presented by Goodheart, backed by the even larger finding of Salter, *e. g.*, of 123 cases of asthma observed by the former, 50 showed a well-marked neurotic inheritance; in 25 it was apparently the direct transmission of asthma or hay fever; in 8 more, one or other of the parents had had rheumatic fever; in other families there is a history of megrim; in others, somnambulism and diabetes existed.

In dealing with these diseases separately, I must again emphasize the point of their marked connection—for while the examiner is in hot hunt for heart trouble where rheumatism is in evidence in the history, he is very prone to overlook, where the grandfather suffered from rheumatism or gout, the probable predisposition to asthma, diabetes and nervous troubles in the offspring.

A rheumatic tendency is, no doubt, frequently inherited; the disease has occurred in the newly born, and the children of rheumatic progenitors are more prone to this trouble than are others, in the proportion of five to one.

The disease may be either directly transmitted, or more often a constitutional predisposition to its development seems to be inherited.

Statistics show that in 30 to 40 per cent. inheritance is a factor in rheumatism. Of course, were we to consider only those cases where there is a double inheritance we would find these figures largely

increased, and where the progenitors, through successive generations had been afflicted we would find them not only increased, but the type much more severe and persistent

Acute attacks are seldom seen after fifty, and in early life, especially about puberty, females are more prone to the disease than males; after that the natural exposure the male is subjected to makes him most susceptible.

Again, in this disease we see the great influence, environment, habits, occupation, and social standing have in modifying the potency of the hereditary taint.

We know that damp surroundings, loose living, exposure and insufficient food are able assistants to any inherited rheumatic tendency. The examining physician is practically the only one who can properly judge of these conditions, and his opinion should carry a proper weight.

Rheumatism and heart disease in the nomenclature of the insurance examiner are almost synonymous, but in considering the hereditary influence of the former in producing the latter we are very apt to overlook the tendency in the child of a rheumatic parent to the development of thickened valves, and that without the appearance of any rheumatic symptoms. This is even more common in gout; but as this disease is so seldom met with in Canada I am not devoting that space to it which its important hereditary influence demands, and will dismiss it by drawing the examiner's attention to the marked tendency there is in the offspring of gouty progenitors to heart troubles, and the balance of that group of diseases spoken of.

Asthma, according to Salter, was hereditary in 14 out of 35 cases observed by him. In many the inheritance was direct. The same authority finds the influence most potent in early life—up to 20 years of age; rare in adult life, and again appearing in old age.

Trousseau draws attention to the hereditary connection between eczema, rheumatism, gout and asthma. Pollock states them to be simply "different expressions of the same diathesis."

The influence that heredity plays in the appearance of diabetes is too well attested to be doubted. Saundby quotes one example, where it occurred in eight members of one family, extending over three generations. He also draws attention to the hereditary connection between this disease and rheumatism, gout and many nervous diseases

It is frequently seen in members of the same family, and examiners should be on the lookout for rheumatism and nervous debility in the near relatives of an applicant whose history shows a diabetic diathesis.

In considering the hereditary influence of alcoholism, we cannot do better than quote the words of Rolleston. He says: "Hereditary taint may be traced in a very large proportion of alcoholic cases; it is said in nearly a moiety. The children of drunkards are extremely susceptible to the influence of alcohol; a quantity that would not affect ordinary persons intoxicates them and produces results not so readily seen in more normal persons. It has been said that when the father has been a drunkard it is rather the moral nature of the offspring which is altered; when the taint is on the mother's side that the brain and nerves are particularly liable to suffer; the mother's influence is said to be the more powerful of the two. "Drunkenness not only breeds alcoholic tendencies, but produces a decidedly neurotic taint and a strong predisposition to insanity. . . . Thus the influence of heredity consists in an unstable condition of the nervous system which may be due either to drunkenness or disorder in the nervous system in the parents."

Here, again, gentlemen, it is scarcely necessary to call your attention to the marked influence for good a healthy environment would exert in modifying an hereditary taint.

Before leaving the subject of alcoholism it might be stated that where such a history is coupled with cerebral hemorrhage, heredity must be considered as a factor in connection with the latter. The same relationship, I would here say, exists between this disease (cerebral hemorrhage) and rheumatism.

A suicidal tendency is said to "run in certain families," but where it "runs in families" it is only another way of saying that there is an hereditary taint of insanity, appearing in succeeding generations. An isolated case of suicide in a family history, with no marked neurotic symptoms, should not bar a candidate.

Having thus briefly reviewed a few of the more common hereditary diseases, I would, before closing the paper, like again to draw the attention of the examiner to the relationship he bears to the company and the candidate, where those diseases are concerned that to-day present an hereditary influence, which, by treatment, can be modified.

When I speak of treatment in this sense, I do not refer only to the use of a few drugs, but a possible change of climate, habits, occupation, etc.

It seems to me, gentlemen, that we are on the threshold of a new era; we cannot much longer go on with the present classification; we must prepare ourselves to furnish the actuary with a fresh clause in our law of mortality; we can no longer consider the applicant, who, suffering from an hereditary taint, is subject to the influence of bad habits, sur-

roundings and occupation, as being in the same class with his brother, who has the inclination and means to take advantage of the advanced findings of modern treatment.

We have seen this to be true in many cases of hereditary influence, and have reason to think that during the next decade similar progress will be made in mitigating to an appreciable degree the potency of many hereditary taints. However, until the profession furnish this fresh clause in our "law of mortality," the local examiner must stand responsible for any recommendations he may make. That such recommendations should be made is a paramount duty when we consider our relationship to the candidate.

The company *may* be guided by a mass of statistics, but the examiner is judging the individual, and must not, through any indifference on his part, deny him a valuable asset, and in many cases a much needed protection.

Before closing, just a word as to the detail of examination, as it appears on, I think, a majority of the forms furnished—the family history is early dealt with, and shortly after the candidate is presented with the question, "Which parent do you most resemble?" If he be at all astute he at once begins to make himself think that he bears a strong resemblance to the healthy side of the family. I have had this experience personally in examining, where I knew the opposite to be the truth.

In this paper I have not given space to crediting authority, but wish to say that I have quoted from Saundby, Pollock, Rolleston and others.

DISCUSSION.

Dr. J. L. Davison, Toronto: While it may be true that adolescence is especially the age of tuberculosis, and old age that of cancer, yet it must be emphatically understood that no period of life is exempt from tuberculosis. Concerning the influence of heredity on cancer, at the present day not much attention is paid to it; the report of the recent German committee of investigation being that cancer is not hereditary. In regard to syphilis, I hold that three years of active treatment, as advised by Jonathan Hutchinson, is the only safe method. The patient should not be considered cured until he has remained free from symptoms for a period of ten years, and even then we cannot be certain of complete safety. Examining physicians should be more careful of their reports, and should not hesitate to write confidential letters to the Medical Director explaining obscure points. As to the examination of the blood vessels, any degree of sclerosis, or visible pulsation in the radials, is of great importance; often of more importance than the existence of a heart murmur.

Dr. Machell, Toronto, suggested that, owing to the excellence of the papers and their importance to practitioners in general, they should be published in book form and distributed to members of the Association.

Dr. John Ferguson, Toronto, held in regard to syphilis that Sir Wm. Grovers was right—"It damages the vitality of the system and paves the way for the entrance of other diseases, such as tabes, aneurism and paresis." The applicants with short-lived parents and relatives are not, as a rule, good risks. Alcoholism is generally an evidence of neurosis in the family. Very many neurotics also have an alcoholic ancestry. In reference to tuberculosis I hold that without the seed there is no crop. The nature of the soil is also important, some soils being much more favorable to the growth of the germ than others. All applicants with organic disease in any portion of the vascular system must be accepted with great care. The following points are important: (a) Family history; (b) Personal condition; (c) Past history; (d) Collateral influence of occupation, habits, etc.

Dr. Hay, Toronto, emphasized the importance of completely exposing the chest. In a recent case a woman objected to exposing the chest and upon insisting, he discovered that one breast had been removed for malignant disease, and the other one showed infection also. The woman was even at that time under the care of a surgeon who proposed to remove the remaining breast.

Dr. Oldright, Toronto, considered that some cases of mitral regurgitation with good compensation were as deserving of acceptance as were many other cases which were shoved through. Moreover, that a man operated on for appendicitis with a good, clean, well-healed scar, should be accepted without difficulty.

Dr. Freel, Stouffville, said we have heard much good advice from the Medical Directors, but I would like to speak a word in behalf of the unfortunate examiners. The difficulty of getting correct answers cannot be over-estimated, especially as it is almost impossible to get accurate information concerning the habits and history of the applicant.

Dr. Britton, Toronto, considered that the examiner who was on the spot and, frequently, personally acquainted with the applicant, was in a much better position to judge of the acceptance of the risk than the Medical Referee. He considered that the Referees should pay more attention to the examiner's answer to the question as to personal opinion on the applicant.

Dr. Scadding and Papps replied to the various points that had been raised.

GASTRO-JEJUNOSTOMY, AS DONE BY MR. MOYNIHAN, OF LEEDS, ENGLAND.

By ERNEST A. HALL, M. D., C. M., Vancouver, B. C.

NO place in Great Britain will repay the medical visitor better than Leeds. True, it has lost one of the great pioneers in the surgery of the upper abdomen in Mr. Robson but his garment has indeed fallen upon his former associate, Mr. Moynihan, to whose extreme courtsey the writer is greatly indebted for the privilege of witnessing not a few of his operations.

The invasion by the surgeon of the territory, formerly occupied by the physician, is not more marked in any department than in that of the treatment of the stomach. No surgical manipulation is to-day, in the hands of competent operators, giving greater satisfaction than that of gastro-jejunosotomy, preferably the posterior operation. The evolution of a method which combines simplicity and effectiveness with a minimum of exposure of the viscera, and practically without shock is one of the recent triumphs of surgery.

The incision, from four and a half to five inches in length is made through the inner border of the right rectus. The omentum and transverse colon are withdrawn and turned upwards over the epigastrium. The under surface of the transverse mesocolon is exposed, and the vascular circle, formed mainly by the middle colic artery is seen. A bloodless spot is chosen, a small incision made in the mesocolon, and the finger passed into the lesser sac. The opening in the mesocolon is then gradually enlarged by stretching and tearing until the fingers can be passed through it. The assistant now makes the posterior surface of the stomach present at this opening, and the surgeon grasps the stomach and pulls it well through. The protruded part of the stomach, about three inches in length, is now seized with a long bladed clamp, the jaws of which are covered with rubber tubing. The clamp is applied obliquely so that the part embraced in the clamp extends from the lowest part of the greater curvature upwards towards the cardia, but we must remember that the stomach is turned upwards, that is, temporarily reversed in its longitudinal axis, the clamp must therefore be applied at a right angle to the direction of the required opening, viz, in a line from the left border of the greater curvature towards the pylorus. The duo-jejunal angle is readily found by sweeping the finger along under the roof of the transverse mesocolon to the left of the spine. The jejunum is then brought to the surface and a portion selected about eight

inches from the angle and is fixed in a second pair of clamps. The two pair of clamps are then placed side by side upon the abdomen. The transverse colon, omentum and the stomach, with the exception of that part embraced in the clamp are now returned within the abdomen.

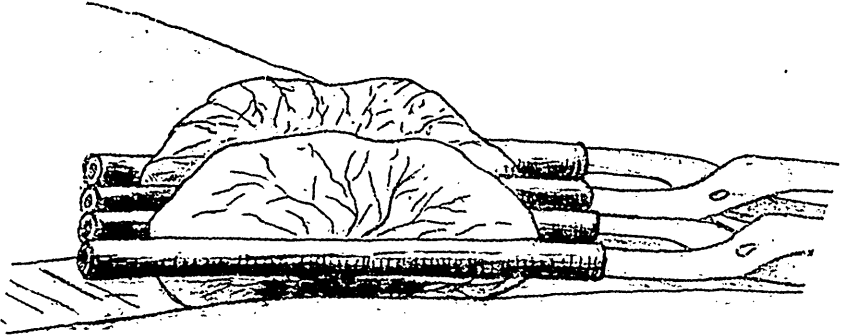


FIG. 1.—The Stomach and Jejunum clamped and ready for suture. The clamps point towards the patient's right shoulder.

The operation area is now covered with hot towels wrung out of saline solution, the clamps with the parts of the stomach and jejunum, which they embrace alone being visible. The serous and subserous coats are now united by continuous suture. The length of the line of suture, as well as that section into the stomach will vary with the amount of dilatation. In extreme cases it may reach seven inches in length, it should never be less than two inches.

About a quarter of an inch in front of this line of suture an incision is made through the serous and muscular layers of stomach and bowels. As the cut is made these coats retract. This retraction should be faci-

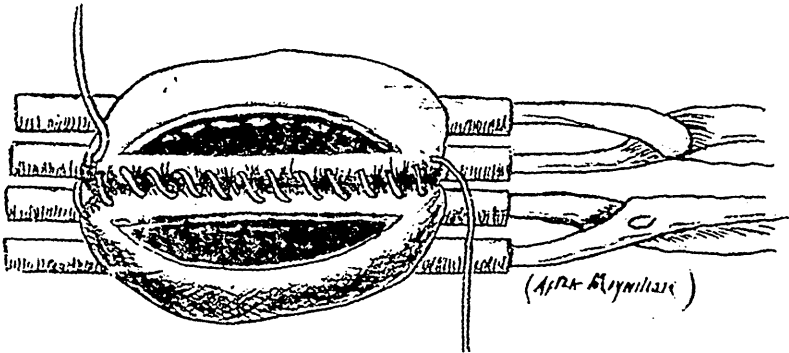


FIG. 2.—The posterior sero-suture applied. Section through stomach and jejunum, showing retraction of serous and muscular coats, and the elliptical portions of mucosa removed.

tated by slightly freeing the mucosa from the muscular layer. An elliptical portion of the mucosa, from two to six inches in length and from a quarter to a third of an inch in width is now removed. The

utmost asepsis is here observed, the mucosa being treated as septic. As the gastric mucous membrane shows a tendency to retract, it is seized by a pair of small vulcellum forceps on each side. Ligature of vessels is rarely necessary. The inner suture embracing all the coats of the stomach and jejunum are now introduced, the stitches being placed close together and drawn fairly tight so as to constrict all vessels. The clamps are now removed in order to determine the presence of any bleeding points. The primary suture is now continued without interruption all around the incision. There are thus two suture lines

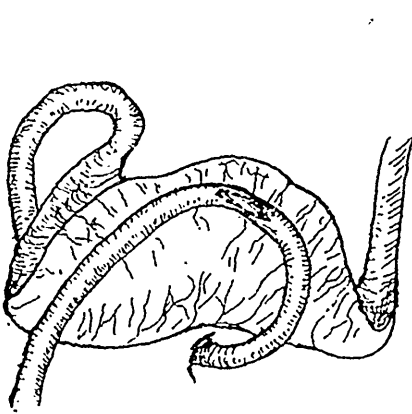


FIG. 3.—Showing the relation of Jejunum to the upturned stomach. Diagrammatic.

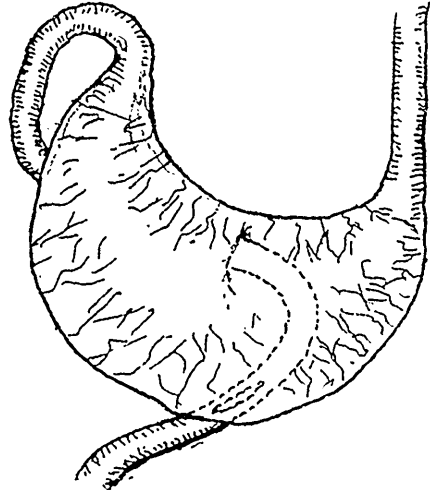


FIG. 4.—Showing the relation of the Jejunum to the stomach after approximation. Diagrammatic.

surrounding the anastomotic opening : an inner, hæmostatic, which include all the layers ; and an outer, approximating, which takes up only the serous and subserous coats. The posterior surface of the gastro-colic omentum is then brought down to cover the attachment and stitched around the jejunum.

The parts are then carefully sponged with saline solution and the abdomen closed.

I have followed the author's plan of description, making slight additions in text and plates.

Dr. Hall operated on a case of acute suppurating appendicitis on board the steamship "Ivernia." When the vessel arrived in port the patient was doing well. This is probably the first time the operation was performed in mid-ocean.

CURRENT MEDICAL LITERATURE

MEDICINE.

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

ON THE ELIMINATION OF STRYCHNINE IN NEPHRECTOMISED RABBITS.

In the *Journal of Medical Research* for July, Salant makes a study of the problem presented by the fact that whereas the kidney is admittedly the route of elimination of strychnine in the normal animal, yet, when this organ is removed, elimination is carried on during the time the animal survives. Rabbits were used for the experiments and they lived on an average three days after the operation. Examination was made to discover what became of the poison, as follows:—

1. The liver neither destroys nor retains strychnine; the same is true of the brain and spinal cord.

2. The physiological effect of strychnine is considerably impaired when treated with the contents of the large intestine.

3. The physiological effect of strychnine is markedly impaired when diluted either with water or organic matter.

4. The injection of the contents of the large intestine into frogs causes coma or paralysis. It contains therefore some toxic substance antagonistic to the action of strychnine.

On the whole, it would appear that the poison is profoundly affected by the contents of the large intestine, in such a way that it is not detected by the ordinary tests.

BACTERIA IN THE DEAD BODY.

In the *Medical Fortnightly*, July 25th, Gradwohl, of St. Louis, has an article on this subject based on examinations made in the morgue in that city of the blood of the heart and of the venous system immediately after death. The blood was withdrawn under aseptic conditions and cultures grown on agar. An analysis of the fifty cases reported shows that cultures from the heart's blood gave positive bacterial findings in 39 cases and negative in 11, even though in many of the cases every evidence pointed to the fact that they were not present during life. On the other hand, negative findings were the rule in cultures from the vein of the arm except in a few cases where there was a history of general sepsis before death, and in such cases the same bacteria were found after death as had been found in the pus from the site of infection.

This constant negative finding in the blood of the median basilic vein shows that there is little or no post-mortem migration of bacilli in this situation, while in the heart there is evidence that they approach it from organs such as the liver and intestines in which they are ordinarily found. Consequently, little if any evidence of importance can be derived from post-mortem examination of the heart in this regard, but the evidence from the venous system of the extremities is of greater value.

SURGERY.

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

THE FIRST APPENDISECTOMY.

In 1827, Melier wrote on diseases of the appendix and reported eight cases. He credited Villermay, a friend and contemporary, with being the first to direct attention to disease of this organ.

In the same article it is stated that Dupuytren, the celebrated surgeon, on March 14th, 1814, opened an appendiceal abscess in one of the cases reported. Dupuytren was thus, probably, the first to operate for this condition, but there is no intimation that he understood anything of the pathology of the disease.

The first published article on perforation of the appendix was by Fitz, in the *American Journal of the Medical Sciences*, October, 1886.

In *Colorado Medicine*, June, W. W. Grant of Denver gives the full history of a case in which he diagnosed perforation in January, 1883 and operated for removal of the appendix in January, 1885. The patient was a woman, aged 22, a school teacher of Davenport, Iowa, who, early in the autumn of 1882, was taken with symptoms now known to be common to appendicitis. An abscess formed and opened in the right groin just below Poupart's ligament.

Grant first saw the case in the latter part of December, 1882, and diagnosed perityphlitic abscess from perforation of the appendix. Early in January, 1883, he operated, laying open the fistulous tract in the iliac fossa, but did not find the appendix, and feared to open the peritoneal cavity on account of the danger of extravasation and peritonitis. The wound was packed with iodoform gauze, but did not heal, and the liquid fecal discharge continued.

The wound was treated by irrigation and drainage with iodoform gauze and rubber tubes for the entire year of 1883, and until May 14th, 1884, when, on the recommendation and with the assistance of Prof. Edmund Andrews, of Chicago, a counter opening was made in the loin,

and both wounds connected posterior to the cæcum. Drainage with tubes was now continued but with no better success.

After six months, permission was obtained to open the abdomen and remove the appendix, so on January, 4th, 1885, Grant, assisted by Drs. W. D. Middleton and C. H. Preston of Davenport, opened the abdomen by a perpendicular incision over the cæcum. The anterior surface of the cæcum was not adherent, but its walls were thickened. The appendix was found excluded by firm adhesions from the peritoneal cavity. It lay retro-cæcal and pointed outward. No intraperitoneal adhesions were broken up for fear fæcal extravasation would infect the peritoneum. The base of the appendix was found, and with an aneurism needle a silk ligature was passed around it close to the cæcum, and the appendix was severed. The severed appendix was left firmly embedded in adhesions, and the greater part of the wound was closed, a gauze drain being left leading from the stump of the appendix.

The patient progressed favorably, but when the gauze drain was removed on the eighth day fæcal discharge was still noticed, proving that the ligature of the stump had not closed its lumen.

On May 12, 1885, a second laparotomy was performed. All adhesions involving the cæcum and stump of the appendix were broken up, and the gut brought well into the wound. The stump was inverted and two rows of Lambert silk sutures inserted. The wound was again drained from the stump with iodoform gauze.

This operation was also unsuccessful because of the unhealthy condition of the peritoneum involved in the sutures.

On January 26th, 1892, the third laparotomy was done. All adhesions were severed and the cæcum brought out of the wound. The opening in the stump readily admitted the index finger and was practically an artificial anus. It was closed by resecting the mucous, muscular, and serous coats, and uniting them separately by chromicised catgut. This line was now inverted and Lambert silk sutures inserted. Finally, these were turned in and shut up by a running stitch of chromicised catgut.

The operation was quite successful, the patient recovering rapidly and remaining well up to the present.

THE IMPORTANCE OF DIAGNOSIS OF DISEASES OF THE RECTUM.

In the *Medical Fortnightly*, June 10th, W. H. Stauffer urges the profession to give diseases of the rectum and anus that careful attention which their importance demands. From time immemorial diseases of the rectum has been in the hands of the charlatan, and for this state of affairs the medical profession is largely responsible.

The average patient who enters the office of the general practitioner makes his own diagnosis of piles, and is too often dismissed with an astringent ointment.

The deplorable fact is that often no examination is made at all by men who would never presume to trust any other part of the body without first making a careful examination.

The majority of diseases of the anus and rectum are very amenable to proper treatment, and the amount of benefit that can be conferred by a well skilled surgeon is really remarkable. It is thus most essential that in all cases a careful examination and proper diagnosis of the condition present should be made.

GYNAECOLOGY

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

PAIN IN THE DIAGNOSIS OF PELVIC AND ABDOMINAL DISEASES.

Dr. E. Stanmore Bishop, of Manchester, in his recent work on "Pelvic Diagnosis" makes the following remarks on "Pain as a factor in the diagnosis of Abdomino-Pelvic Disease."

Abdomino-pelvic pain is of three kinds, it is either continuous, intermittent, or a combination of the two—a continuous pain with intermittent exacerbations. Pain is a subjective sensation, not requiring any interference by the examiner in order to elicit it. Tenderness requires pressure before it can be determined.

In this region of the body, intermittent pain indicates neuralgia, or some obstruction to the free flow of the contents of one of the four great tubular systems present in the abdomen: the urinary, biliary, faecal, or, in women, the genital series. It is always dependent upon the peristaltic contractions of one or other of these tubes.

Continuous pain implies a pathological condition of some mesoblastic tissue.

Intermittent, neuralgic pain is referred to the abdominal skin. A slight touch increases it; firm pressure sometimes relieves it. Visceral pain is intensified in proportion to the pressure exerted, and a light touch does not evoke it. This statement does not refer to visceral tenderness. Neuralgic pain follows the course of the nerves and is sharp and darting. Visceral, intermittent pain is wave-like, becoming more and more intense and then dying away.

The combination of pain with tenderness is of great value. It enables us to distinguish ordinary or lead colic, in which there is severe pain, but no tenderness, from peritonitis or appendicitis, in which both are present; and gall-stone colic or urinary colic, with its recurring paroxysms of pain without tenderness, from empyema of the gall-bladder or perinephritic abscess, in which both pain and tenderness are well marked.

The time at which abdomino-pelvic pain appears, or rather its relationship in time to certain functions, will give great assistance.

Pain just after micturition suggests cystitis or stone in the bladder, or part of the lower ureter; pain during micturition, gonorrhoea or other urethritis; pain before defecation, ulceration in the rectum, acute prostatitis or metritis; pain during or after defecation, fissure; pain before menstruation, ovaritis or salpingitis; during menstruation, some contraction, organic or spasmodic, or some flexion of the uterine canal; and pain directly after eating, suggests ulcer of the stomach, two to four hours after, ulcer of the duodenum, and so on.

The character of pain is also of value in diagnosis. An intense, sudden, tearing rending pain, often severe enough to produce collapse, and usually associated with sharp vomiting, is common to a comparatively small class of cases. These are: Perforation of ectopic pregnancy, rupture of pyosalpinx, rupture of appendicular abscess into the general peritoneal cavity, rupture of gastric ulcer, of duodenal ulcer, of gall-bladder. Note that these are all ruptures of important organs, permitting the escape of irritant fluids into a healthy peritoneal cavity. One gets nothing like this in ascites, although the peritoneal cavity may contain far more fluid; or in tuberculous peritonitis, though here also the cavity contains fluid, and sometimes pus. In the one, the fluid is not irritating; in the other, the peritoneum is not healthy at the time when the fluid comes in contact with it.

In rupture of ectopic pregnancy there is usually previous good health except for pain. A pyosalpinx means infection of a septic character; there has been previous pain, and suspicious history. Duodenal and gastric ulcer imply previous dyspepsia, etc. An appendiceal abscess does

not rupture as soon as formed; very often there is a history of repeated previous lesser attacks of pain in the right iliac fossa, and always there will have been some hours, and, possibly, days of suffering before the intenser pain of rupture sets in.

In cases of intussusception which usually occur in children, you will hear from the mother that the child has had attacks of intense pain—and she will emphasize this very greatly—but at the time you see it, it will be probably fast asleep, evidently in no pain at all, and it naturally occurs to you that the mother is exaggerating, and that there is nothing more the matter than slight gastralgia. If in such a case you uncover the abdomen and place your warm hand upon it, moving it gently in various directions, at first the child will make no objection. You may, or may not, feel any mass at first; but your gentle friction will excite peristaltic action, and the child begins to cry. If you maintain your hand there, the crying becomes greater; the pain suffered is evidently more and more intense, until it reaches the acme, and then gradually it dies away again. It is wave-like. During the paroxysm of pain a mass may, for the first time, become palpable. If you have previously detected it, it becomes steadily harder and more defined as the pain increases.

The combination of pain with rigidity is important. So long as the peritoneal surface of a viscus is not inflamed, rigidity will not be present; thus, a gastric ulcer may cause pain, but if it has not reached the peritoneal coat of the stomach there will be no rigidity. Catarrhal appendicitis will produce pain, but no rigidity unless there be, as well, some peri-appendicitis. But directly the peritoneum itself becomes involved, rigidity, local or general, according to the extent to which this membrane is implicated, will become evident. Rigidity of the abdominal muscles is but temporary, as, when distension begins, showing septic paralysis of the bowel, rigidity passes away; but I believe it will always be found in the earliest stages if carefully looked for.

OBSTETRICS AND DISEASES OF CHILDREN.

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

ADHERENT PLACENTA.

Wells Teachnor, M.D., *Columbus Medical Journal*, June 1904, reports an interesting case of repeated adherent placenta. The patient, a white woman of strumous diathesis, at 24 years of age had a normal pregnancy and labor till the third stage was reached,

when an adherent placenta was encountered which was extremely difficult to remove. After normal health for a few years a perfectly normal pregnancy and labor occurred. In February, 1900, after a normal pregnancy, the placenta was found adherent to the fundus throughout and had to be removed piecemeal. The decidua was thickened and two patches of calcareous degeneration were found on the surface of the placenta. Moderate septic infection followed in spite of antiseptic precautions. In June, 1903, she was delivered of a healthy child but died from hæmorrhage while efforts were being made to remove the adherent placenta.

In a period of 14 years this patient had four pregnancies, three of which were complicated by adherent placenta.

A CASE OF HEMI-HYPERTROPHY IN WHICH THE INTERNAL ORGANS WERE AFFECTED.

Robt. Hutchison, M.D., *British Journal of Children's Diseases*, June, 1904, reports the following case:—

The patient, aged four months, was the fourth child of the family, the others being healthy. Nothing abnormal was noted during pregnancy of mother and labor was easy. The abnormal condition of the child was noticed at birth. When seen he was apparently healthy and well nourished and with the exception of the asymmetry nothing abnormal was noted on examination but three very small capillary naevi in the skin of trunk and limbs.

The head, tongue and face were quite symmetrical and all the digits were normal; the limbs on sides were of equal length. The girth of the left arm and leg was greater, being due to increase in the subcutaneous tissues, and represented a diffuse lipoma. The measurements showed that the circumference of the left limbs was from 1 1-2 to 2 inches greater than those similarly taken on the right. The circumference of the left chest at the nipple line was one inch greater than that of the right chest; while at the level of the navel the left side of the abdomen exceeded the right by an inch and a quarter. The child died of bronchopneumonia with left-sided empyema.

Post-mortem revealed that the increased girth of the left side of the body was due solely to deposit of subcutaneous fat. No other tissues were affected. The brain, pineal and pituitary bodies were normal.

In the case of "paired organs" those of the left side were almost without exception larger than those on the right. The heart was normal, the two lobes of the thyroid symmetrical, while the liver was normal in

size and shape but contained some multiple angiomata. The left side of the thymus was noted to be decidedly larger than that of the right.

The author concludes, "that the hemi-hypertrophy in such cases cannot be the result of any mere 'trophic' influence, but must date back to embryonic life, and be the consequence of unequal segmentation of the ovum."

PUBLIC HEALTH AND HYGIENE.

Under the charge of CHARLES HODGETTS, M.D., C.M., L.R.C.P., ED., Secretary to the Provincial Board of Health for Ontario.

HAY FEVER—RECENT INVESTIGATIONS ON ITS CAUSE, PREVENTION AND TREATMENT.

R. Ashleigh Glegg, M.B., Ch.B., D.P.H., Edin, in the July number of the *Journal of Hygiene* contributes an exhaustive article upon this interesting disease, which in brief is as follows:—

Part I gives an account of the history of hay fever since it was first accurately described by Bostock, of London, in 1819, referring to its geographical distribution and clinical symptoms. "In England, Germany and other countries of middle Europe it appears about the middle of May and lasts until about the end of July, whereas in the United States of North America (this, of course, to the English writer includes Canada) the disease is seen at different periods, *e.g.*, in the Northern States it occurs typically in the early summer, and again in the autumn, the earlier form being called June cold or spring catarrh and the latter is known as autumnal catarrh, which, beginning in August or September, lasts until the first frost. The factors discussed under etiology are: Geographical Distribution, Heredity—which is said to be marked, Sex, Age, Constitution, Temperament, Education, Social Position, Suggestion. In concluding this portion of his paper, he says in reference to the attack of hay fever being the outcome of either a gouty or arthritic diathesis: "These diatheses are indeed present in many instances, and in England especially gout and hay fever are frequently found in association amongst the rich and better educated; but hay fever cannot be explained as the result of the gouty diathesis, for the disease occurs in very many who have no gouty tendency." The former theories of the etiology are given at some length. "Hay fever affords an illustration of the familiar fact that the number of theories concerning the etiology of the disease is in inverse proportion to the state of knowledge of the subject." The results of recent researches, which were instituted by Dunbar with the pollen of grasses and other plants in 1902, are stated. "Up to the present time the pollen of 130 different

plants has been examined with regard to effects on persons liable to hay fever. The list of 114 plants tested by Dr. Kamman at the Hygienic Institution, Hamburg, which includes all those of toxic pollen is given in a table. Liefman, in a research conducted in this same institute, the complete reports of which will shortly be published, confirmed Blackley's statement that on days when attacks of hay fever are especially severe there is an unusually large amount of pollen in the air; that, in fact, the severity of hay fever attacks is in direct proportion to the quantity of pollen present in the atmosphere. He further proved that the amount of pollen inhaled by a patient on days when hay fever symptoms were present was more than sufficient to induce attacks; for it has been demonstrated that the quantity of toxin yielded by two or three pollen granules suffices to cause a distinct hay fever attack in some predisposed subjects." The structure and chemical constitution of pollen are explained and stated and the toxin is stated to contain a unit globulin and a highly toxic albumin. "So toxic is it, that so small a quantity as a forty thousandth of a milligramme of the common proteid, in solution, locally applied in the conjunctival sac of a hay fever patient is capable of causing itching and redness lasting for some hours" The general evidence that pollen toxin is the exciting cause is presented from which the writer concludes: It is evident that a toxin isolated exclusively from the pollen of certain plants is able to call forth in hay fever patients typical attack of the the disease. "Conversally," he argues, "we may conclude that hay fever, as it occurs in the different civilized lands, is really an etiologically identical disease so far as the exciting cause is concerned—so constant have been the reactions shown to pollen toxin that it possesses distinct value as a diagnostic agent. Everybody admits the treatment in this disease has been up to the present unsatisfactory—the new treatment, which is discussed in Part II., of the paper is founded on a rational etiological basis—and should, theoretically, provide a cure for all symptoms of the malady. The details are given of the preparation of the Pollen Antitoxin, "Pollantin," from the horse together with the method adopted for its standardization. The fluid serum is chiefly suited for application to the eye by means of a pipette, for the nose it is used in a powder form, being sniffed up each nostril.

"In studying the best means to use pollen antitoxin in the treatment of hay fever the well known fact found in practice with other sera must be borne in mind, when antitoxin is brought into use, after the toxin has had time to enter into combination with the body cells, a hundred, or even a thousand times the amount sufficient to neutralise

toxin *in vitro* may be quite useless in treatment. It is therefore clear that the greatest importance must be attached to the prophylactic use of the serum, for this purpose patients are recommended to sleep during hay fever period always with their bedroom windows shut and to apply the 'Pollantin' regularly every morning a few minutes before getting up, both to the eyes and the nose."

"Exposure to the open air should be limited to a few hours at most. By this means according to experience a patient can guard himself from attacks for several hours, often indeed for the whole day. The use of the antitoxin is not followed by any ill effects, nor does it create a habit."

The use of subcutaneous injections is cautioned against as the results prevented its recommendation.

The paper concludes with a series of cases which have been treated in different places in Europe, nearly all of which point to its usefulness as a prophylactic.

OPHTHALMOLOGY AND OTOTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M., Professor of Ophthalmology and Otolaryngology, Medical Faculty, University of Toronto.

EXTIRPATION OF THE LACHRYMAL SAC FOR THE CURE OF DACRYOCYSTITIS.

Dr. E. W. Stevens, in *Colorado Medicine*, discusses the methods and indications for this procedure in the June number as follows:—

In the whole field of ophthalmic surgery there is probably no class of cases which gives more annoyance to the surgeon and discomfort to the patient than those of inflammation and stricture of the lachrymal passages.

As usually treated they are practically never cured. The patient is subjected to the annoyance of tears flowing over the margin of his eyelids, producing in many cases an eczematous eruption on the cheek. The regurgitation of the contents of the sac extends the inflammation to the conjunctiva, setting up and keeping up a chronic conjunctivitis. A large proportion of cases are liable to repeated attacks of acute inflammation of the sac with infection of the surrounding tissues and the formation of an abscess.

The point of greatest importance, however, in the pathology of dacryocystitis is the danger of an accidental abrasion of the cornea becoming infected by the contents of the lachrymal passages, and thus producing a septic corneal ulcer with all its attendant perils.

Of the pathology of dacryocystitis there is little or no difference of opinion. Stricture of the duct is admitted to be the chief, if not the

sole cause of the affection. Stricture may be brought about by extension of inflammation from the nasal mucous membrane, the cicatrization of ulcers in, or in the neighborhood of the nasal duct, the presence of polypi or other tumors and by injury or disease of the neighboring bones.

We may in general terms, divide the treatment of lachrymal obstruction and dacryocystitis into two heads: (1) Conservative treatment, (a) by small probes, and (b) by large probes; and (2) radical treatment by extirpation of the lacrimal sac. The probe treatment is usually supplemented by the injection of antiseptic and astringent solutions, and particularly is this true of those surgeons who use small probes through an intact canaliculus; amongst whom are such distinguished ophthalmologists as Von Mitchell, of Berlin, Schroeder, of St. Petersburg, and Adelheim, of Moscow. The majority of the European surgeons, however, first slit the canaliculus as a preliminary to probing, although it is exceptional for them to use large probes.

On the other hand, the American school of ophthalmologists influenced by the teachings of Williams, of Cincinnati, Noyes, of New York, and Theobald, of Baltimore, lays great stress on the importance of using large sounds in order thoroughly to dilate the stricture. There can be no question regarding the great superiority of this method of treatment as compared with the use of small probes.

The duration of treatment will extend to months and years, and there is usually a relapse even after an apparently excellent result has been attained. Frequently the patient, discouraged and weary of the long and painful course of treatment and hopeless of ever arriving at a permanent cure, is lost sight of.

The radical treatment of this affection consists in the removal of the lacrimal sac. The following is the method of removing the sac advised by Rollet, of Lyons, France. An incision about 15 mm. long, but varying in accordance with the size of the tumor, is made, starting from the level of the internal palpebral ligament and descending at first perpendicularly and then being directed to the outer side. It thus describes a curve running parallel to that which is formed by the crest of the ascending process of the superior maxilla which can be felt with the finger. The aponeurotic layer which covers the external wall of the sac is next incised. This is followed by a dissection of the fibrous layer, thereby exposing the anterior wall of the sac. The postero-internal portion of the periosteum and the external wall of the sac is next freed by means of a cutting raspatory. The cupola of the sac is next disengaged and the whole sac cut away from its attachments at the level of the nasal duct. The last step is to curette the nasal duct. After the

arrest of hemorrhage a flat dressing is applied, but neither drainage or sutures are used.

The scar is usually insignificant and hard to see. Suppuration is cured immediately the operation is performed, as well as all irritation and inflammation of the conjunctiva. The watering of the eye disappears with the cause of the hypersecretion, namely, lachrymal inflammation, and it is only when exposed to wind, dust, smoke, etc., that any epiphora is observed. In about 67 per cent. of cases no abnormal lachrymation exists.

Many ophthalmologists only resort to extirpation of the sac when other means have been fully tried in vain. On the other hand, Volckers, of Kiel, after performing over 500 extirpations, recommends the operation in all but the very mildest cases. He considers lachrymal obstruction to be a standing menace to the safety of an eye amongst the laboring classes, since working men and women cannot submit to a long course of treatment, while they are the very people most prone to receive slight eye injuries.

Fuchs, of Vienna, resorts to removal of the sac under the following circumstances: (1) When extensive cicatricial contractions are present or when the nasal duct is completely obliterated; (2) when atony and dropsy of the sac are present; and (3) when the patient's circumstances forbid a prolonged course of treatment.

Most operators will find themselves in accord with the generalization of Herman Knapp, that extirpation is indicated in all those conditions in which "an important lachrymal disease can not so well or not at all be cured otherwise."

LARYNGOLOGY AND RHINOLOGY.

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

THE TREATMENT OF TUBERCULAR LARYNGITIS.

S. E. Solly, M.D., Colorado Springs, in a paper read at the recent meeting of the American Laryngological, Rhinological and Otological Society (reported in June *Laryngoscope*), notes the very high mortality from this disease and the hopelessness with which it is too frequently combated. He thinks the chief reason for the high mortality is the almost invariable pulmonary disease and more important the feeble resistance found in the individual, as shown by the extension of the disease from one organ to another during the first stage of the attack,

Furthermore, the local treatment of laryngeal tuberculosis to be successful demands special skill, experience, courage and patience on the part of the physician and faith and fortitude on that of the patient. Though we are able to save comparatively few cases of this disease, we are able, by judicious local treatment, to save a large number from the direful distress of an unchecked tubercular laryngitis.

The first essential of treatment is to place the patient under the best hygienic conditions, especially the open air treatment in a good sanitarium. The second is a change to a good climate of which the preferable elements are in their order, dryness, sunshine, cool air, and a high altitude. The third is local treatment by an experienced laryngologist. Solly lays stress upon absolute rest of the voice—a point too often neglected. Pulmonary tuberculosis is not unfrequently preceded by a non-tuberculous laryngitis, which often masks its approach to the invasion of the larynx by tuberculosis. Attention is drawn to the necessity of attending to the nose and naso-pharynx. Solly thinks these regions should be treated as radically as the case demands and the general condition of the patient permits, more can safely be done than is usually thought. Cold inhalations are usually best, especially the compound tincture of benzoin, one part; glycerine, one part; and alcohol, one and a half parts. This is also of great benefit to the bronchitis, accompanying tuberculosis of the lungs. In cases of tubercular infiltration of the larynx, without ulceration, he advises sub-mucous injections of about 30 minims of a 15 per cent. watery solution of lactic acid, preceded by an injection of cocaine and adrenalin. Lugol's solution, with an equal quantity of alcohol or glycerine, painted lightly over the parts, is also of service. When there is decided pain, particularly on swallowing, there is in most cases an ulcer which may be seen, owing to swelling on the parts. A frequent seat is the under surface of the epiglottis. The pain produced by these ulcerations is markedly lessened by the use of pure lactic acid. If curettage is necessary, it is best employed about three days after the use of lactic acid. Orthoform is not recommended by the author. Solly concludes his paper by saying that "most physicians are far too timid in handling a tuberculous larynx, resorting in their blindness to superficial treatment, and to sedatives in their mistaken kindness, when in most cases they had far better use the radical measures herein indicated."

Harland, *Laryngoscope*, June, 1904, cites an interesting case of excessive hemorrhage following the removal of a faucial tonsil with a Matthieu tonsillotome. Various astringents and styptics were used but recourse to the Paquelin cautery was eventually necessary.

X-RAY THERAPY AND SKIAGRAPHY.

Under the charge of JOHN McMASTER, B.A., M.D., C.M., Toronto.

X-RAYS AND INTERNAL FLUORESCENCE.

Numerous reports are to hand by different x-ray operators of the favourable effects of x-rays upon malignant lymphoma, or Hodgkin's disease, on lympho-sarcoma and in the different forms of leukaemia. Morton, of New York, has used, in some of these varieties of lympho-sarcoma, internal fluorescence. He administers 10 grains of quinine bi-sulphate, or fluorescence, half-an-hour before making the exposure, and claims better results than without it.

Trials should be made of this therapy in all these otherwise fatal maladies and the results noted. At present, it seems as if great possibilities are open to experimenters along these lines. Pernicious anaemia is another form of blood dyscrasia that may be amenable to x-ray influence, especially under internal fluorescence.

X-RADIANCE IN EPILEPSY.

A considerable number of cases of epilepsy of varying duration have been given x-ray treatments, and the results reported in the Journals. When the condition has not been established for a long time, the results are very encouraging, and especially is this the case in young subjects. It is generally accepted that x-ray treatments, if not pushed beyond the proper limit, stimulates protoplasm into greater vital activity, and this may be the cause of the improvement in this class of cases.

Dr. Brantt, New York, gives three treatments a week, beginning with five minute exposures at fifteen inches distance, and by degrees increases to ten minutes at ten inches. A different part of the skull was exposed at each sitting, and a tube of high penetration used. The hair drops off usually near the parts exposed, but returns again later in stronger growth. In some cases the bromides can be dispensed with; in others, small doses prove beneficial. In young subjects a gain of weight soon results, and a marked improvement in the mental faculties takes place. The impediment of speech, which occurs in severe cases of long standing, has been removed by the raying; and the attacks, which numbered from six to ten a day, would be reduced to one every two or three weeks.

It is to be hoped that these results will be confirmed by others. I recall a case where I took two radiographs of the head with a view of locating the cause of the seizures. He had no attacks for over two months following the exposures.

PROVINCE OF QUEBEC NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Montreal.

The summer of 1904 has been no less deadly to infants in Montreal than that of 1903, and the record of over one hundred deaths in a single week has rarely been surpassed. Dr. Laberge, the Medical Health Officer, has on several occasions published statistics and reported to the aldermen facts bearing upon the various causes which operate to produce such a condition of affairs. Efforts have been made to abolish privy-pits and other sources of infection, and in this work over 7,000 pits have been done away with in the past three years, and it is hoped that shortly none will be left.

An association has been formed during the past summer which promises to be of great assistance to mothers in the care of their children. Several physicians, with the Chairman of the Health Committee founded the "Association de la Goutte de Lait," the aim of which is to provide sterilized milk for the infants of the city,—as yet the organization has not received its English name.

Arrangements were made with the best milkmen for the supply of pure milk, afterwards modified by the Montreal Foundling Hospital, and the Sisters of Mercy, to suit the individual cases. This milk is then distributed in hermetically sealed bottles throughout the city, where it is sold at cost price; although it is given free of charge to those unable to pay for it. So far, sick infants alone are supplied, but at a later date the association will provide for both sick and well. Each bottle, in order to ensure the condition of the milk, contains only enough for one feeding, except under special circumstances when larger quantities may be obtained. The city council has been asked to print literature on the care of babies which is to be distributed from the dispensaries and a grant of \$4,000 has been asked from the finance committee to put the work upon a solid basis. As ice is almost essential to the preservation of milk in hot weather the association has also been considering the distribution of this commodity at such a rate that it will be within reach of everyone.

Officers of the association were elected as follows: Hon. President, Mayor Laporte; President, Dr. I. Cormier; First Vice.-President, Dr. E. D. Blackader; Second Vice.-President, Dr. J. Dube; Secretaries, Dr. D. S. Evans and Dr. G. Boucher.

A great deal of interest is being shown in Montreal in regard to the Canadian Medical Association meeting at Vancouver, and several parties have been formed for the trip, among the Montreal men taking

part in the meeting by reading papers are the following: Drs. J. W. Stirling, H. E. Garrow, F. J. Shepherd, J. B. McConnell, D. E. LaCavelier, R. H. Craig, M. E. Abbott, T. A. L. Lockhart, Jas. Bell and S. F. Wilson.

Recorder Weir has again scored against adulteration of food in the city when he had a large consignment of rotten figs which were to be used in making "strawberry" and "raspberry" jam, condemned and incinerated. The accused was permitted to go after receiving a lecture and paying costs.

An interesting series of pathological reports upon all the cases of cancer coming to autopsy at the Montreal General Hospital and the Royal Victoria Hospital has been completed. This series has been investigated in connection with the work of the committee of the Cancer Research Fund of Great Britain, which is obtaining records of more than ten thousand cases of cancer which have been examined microscopically.

Out of 3,275 recorded autopsies there have been found 275 cases of malignant neoplasm, and of these 212 were of carcinoma, and 63 of sarcoma, 56 per cent. being in males. In the carcinoma series, 60 per cent. were found in the alimentary canal, and in turn 62 per cent. of these occurred in the stomach. Of this class of malignant growth, only 1.9 per cent. were found in those under 25 years; 6 per cent. between the 25th and 35th years; and 6 per cent. between the 35th and 40th years. Of the sarcomata, 6 per cent. occurred before the 10th year; 11 per cent. before the 25th year; and 30 per cent. between the 46th and 60th years. In comparing these figures with those already in the hands of the committee, there are a few striking variations from the statistics taken from the London hospitals, but they coincide very well with some of the continental series.

The report of the Montreal Medico-Chirurgical Society for the past session shows that fourteen papers were read and twenty-one cases reported. A large number of living cases were presented and three lantern demonstrations given. The average attendance was fifty-four which is the largest for some time past. Among those who contributed papers were Drs. Osler, Goldthwaite, Cushing, Primrose, and Prof. Rutherford.

The council has considered a number of questions of vital interest to the members of the Society and the profession at large, among which were the proposed change of tariff by the Canadian Nurses Association, the medical inspection of schools, and the suggestion that hospitals and dispensaries shall be asked to consider the regulation of free treatment to those able to pay for medical attendance.

MEDICAL SOCIETIES AND GATHERINGS

MARITIME MEDICAL ASSOCIATION.

The fourteenth annual meeting of the Maritime Medical Association opened at 10 a.m., July 6, 1904, in St. Paul's Parish Hall, Halifax, N. S., the President, George M. Campbell, M.D., being in the chair.

The minutes of the last annual meeting were read and approved. A letter of regret, at his absence, was read from Dr. H. D. Hamilton, Montreal. Letters were read from the Management of Victoria General Hospital and Nova Scotia Hospital, inviting the members to visit these institutions.

Dr. G. C. Jones, Chairman of the Local Committee, then gave an address of welcome.

The Nominating Committee was appointed, by the President, as follows: Drs. W. B. Moore, Kentville, N. S.; C. D. Murray, Halifax, N. S.; McKenzie, Dartmouth, N. S.; G. C. VanWart, Fredericton, N. B.; G. A. B. Addy, St. John, N. B.; F. H. Wetmore, Hampton, N. B.; R. McNeil, Charlottetown, P. E. I.; Ross, Alberton, P. E. I., and F. P. Taylor, Charlottetown, P. E. I.

THE PRESIDENTIAL ADDRESS.

The President, G. M. Campbell, M.D., of Halifax, now gave his address on "A History of Vital Statistics."

Statistics originally denoted enquiries into the condition of a State. The Romans were careful to obtain accurate information regarding the resources of the State, and they appear to have carried on the practice of taking a census with a regularity which has hardly been surpassed in modern times. But it was not until within the last three centuries that systematic use of the information available began to be made for purposes of investigation and not of mere information. The earliest work was published in Venice in 1583. Achenwall (1719-1772), the "father of modern statistics," is usually credited with being the first writer who made use of the word "statistics," which he applied to his collection of "Noteworthy Matters Regarding the State." In any case statistics, in the modern sense of the word, did not really come into existence until the publication of a work by J. P. Suosmilch, a Prussian clergyman. In this book a systematic attempt was made to make use of a class of facts which, up to that time, had been regarded as belonging to "political arithmetic," under which description some of the most important problems

of what modern writers term "vital statistics" had been studied especially in England.

Quetelet published his work in 1835, and, as a result, "The Statistical Society of London" was founded in that year, and, in 1837, the first Act was passed in England for the registration of births, deaths and marriages.

The Statistical Society of London has had a considerable and very useful influence in the practical work of carrying out statistical investigation in the United Kingdom and elsewhere.

In 1761, an Act was passed in Nova Scotia for the registering of marriages, births and deaths. Proprietors' clerks were appointed registrars in the respective townships. They received a fee of sixpence from those getting married and from the parents and nearest of kin of those born or dying. Those refusing to comply were subject to a fine of five shillings. Their goods were subject to a levy if not paid in four days. In the same year was passed an Act to prevent the spreading of contagious distempers. In 1782 the Act was amended, town clerks to be registrars instead of proprietors' clerks. The fee for each registering was made one shilling.

In the Provincial Statutes of Nova Scotia, 1851, F1 st Series, the next reference to the registry of births, deaths and marriages is found. (Chap. 123, page 328). In 1861, a bill was introduced into the Legislative Assembly, but no further action was taken. At a meeting of the Medical Society of Nova Scotia, held Oct. 1st, 1861, at the residence of Dr. (now Sir Charles) Tupper, the following resolution was moved by Dr. Tupper and seconded by Dr. W. J. Almon (Dr. Almon died two or three years ago and had been a Nova Scotia senator for many years.)

"Resolved that this Society request all its members to forward an annual register of all cases attended by them and the result, and also the cause of death in all fatal cases; and that a committee be appointed to carry out the above object."

This resolution passed unanimously and Drs. Tupper, Almon and Gossip were named as the committee.

On Feb. 2nd, 1864, Dr. Lewis read an essay before the Society on "The Vital Statistics of Nova Scotia," showing the necessity for a proper registration of births, marriages and deaths. At a meeting of the Medical Society on March 1st, 1864, the committee appointed at last meeting reported as follows:—

"That finding from the speech of His Honour the Administrator of the Government at the opening of the House of Assembly that a bill was to be brought forward by the Government during the present session,

providing for a proper registration of births, marriages and deaths, and that any action that it might have been disposed to take in the matter had been thus forestalled, they determined to supply those interested with all the information on the subject in the possession of the Society, and for that purpose ordered the publication of the essay by Dr Lewis on "The Vital Statistics of Nova Scotia."

The Attorney-General introduced the bill, viz.: Solemnization of Marriage and the Registration of Marriages, Births and Deaths. The bill passed and is found in the Revised Statutes of 1864 (Chap. 120, page 414).

At the time of Confederation, July 1st, 1867, the Dominion Government took over the Nova Scotia plan of vital statistics. In Ontario, however, the Ontario Legislature passed an Act in 1868-9 for registration of births and deaths.

Dr. (Hon.) Charles Tupper contended that under the British North America Act, the Dominion Government had sole control of vital statistics.

Hon. Alex. Mackenzie thought otherwise. That it belonged to the local legislature.

On Feb. 17th, 1875; Hon. Alex. Mackenzie, said that Ontario alone had a regular system of collecting vital statistics and even in that province the returns were so unsatisfactory as to create a good deal of discussion upon the question of adopting some other means to secure more complete returns. In Quebec there was a parochial system of obtaining statistics respecting burials, baptisms and marriages, which were perhaps more correct than Ontario although the system was deficient in other respects. There was a system in operation in Nova Scotia but it was of little use and in other provinces there was no system at all. For his own part it was a subject to which he had given considerable attention and he would continue to give it as much attention as he could possibly spare from his other public duties.

Hon. Chas. Tupper complained of the terms in which the First Minister had referred to the Statistical Department in Nova Scotia. It certainly compared favorably with that of Ontario, though not so comprehensive in its character.

Hon. Alex. Mackenzie remarked that it was a comparatively useless expenditure and that the Government was only justified in retaining it by the hope that something better and more complete would be brought into operation.

On Feb. 21st, 1877, Mr. Brouse moved for a select committee to examine and report upon the subject of Vital Statistics and Public Health.

Hon. Chas. Tupper said he had entertained the hope from a statement made by the First Minister on a former occasion that this matter had received and was receiving the careful consideration of the administration. The question of statistics, whether vital or otherwise, under the Union Act had been placed exclusively within the control of the Dominion Parliament and the attention which had been given to the subject by the local Government of Ontario he held was entirely unconstitutional. No branch of statistics could be compared in point of importance with vital statistics.

No provision was made in the estimates so the Dominion Government ceased conducting the statistical department of Nova Scotia.

Why did the Dominion Government take over the statistical department of Nova Scotia in 1867 and allow Ontario to pass a local Act in 1868-69? The fathers of confederation might well have added to their laurels by passing a Dominion Registration Act.

It is the opinion of a lawyer in this city whose knowledge is "microscopic" as well as "macroscopic" that the local legislatures are at liberty to deal with vital statistics.

The Maritime Medical Association is meeting for the fourteenth time. I hope that before the Association attains its majority that we will see a Dominion registration for marriages, births and deaths, and that we will have a Dominion diploma entitling a man to practise anywhere throughout Canada.

Moved by Dr. McNeil and seconded by Dr. Birt that a vote of thanks be tendered the President and the address be referred to a committee consisting of Drs. March, McNeil and Addy.

COMMON AND UNCOMMON AFFECTIONS OF THE FEET.

Arthur Birt, M.D., C.M., Edin., Berwick, N.S., then read a paper on Some Common and Uncommon Affections of the Feet met with in Practice.

Many of these conditions entail considerable pain and disability on the patient, who may indeed be quite convinced of your ability to remove his normal appendix at a moment's notice, but who naturally looks askance at your failure to cure his "pet corn" or to discover that his so-called rheumatic or gouty foot has a broken down arch.

The Weak or Flat-foot deserves the first mention. The following case will serve as a type: An unmarried female, aged 40, applied for the relief of "rheumatic" pains in the legs, feet and distressing back-ache. She had been treated for rheumatism without effect, and had

also been subjected to a vaginal fixation of the uterus with the object of removing the backache and other minor and presumably pelvic symptoms. This treatment had not, however, resulted in any improvement. No results were obtained until after the detection of a well marked bilateral flat-foot led to measures directed to supporting and strengthening the arches, which promptly led to improvement in the symptoms and which later almost entirely disappeared.

Etiology.—I have met with this and its allied conditions much more frequently in women than in men. The most important factor in its causation is ill-fitting and wrongly-shaped boots. Improper postures, deficient muscular development, overstrain after exhausting illnesses or pregnancy, other deformities (*e.g.*, corns and bunions), and direct injury all predispose.

The symptoms vary in severity from a simple sensation of weakness and discomfort referred to the inner side of foot and ankle, to marked aching or neuralgic pains in the calf muscles and the lumbar region, and almost complete incapacity for even moderate use of the feet in walking or standing. The painful sensations in the feet are aggravated by cold and damp and relieved by rest. Hence they are often ascribed to gout or rheumatism by both patient and practitioner.

Congenital Talipes Equino-Varus.—One is consulted now and then by an anxious mother who has noticed the feet of her infant or young child turn in and out too much. A sharp distinction must be made between the congenital and acquired forms, for in the paralytic club-foot we have not alone the deformity, but also a loss of power of the muscles to hold the foot in the proper position.

Metatarsal Neuralgia.—The researches of Goldthwaite, of Boston, have cleared up the pathology of this condition and shown that the symptoms really depend on weakness of the anterior metatarsal arch of the foot, formed by the heads of the metatarsal bones. That this weakness or deformity is of varying degrees, and that the symptoms and character of the pain vary accordingly. Morton's typical neuralgia which he attributed to pinching of the plantar nerves by the adjoining fourth and fifth metatarso-phalangeal articulations, is only one expression of weakness of the anterior arch and each individual case must be judged on its merits.

Ill-fitting shoes is a leading factor in the production and maintaining of this painful affection. Practical immunity from the attacks of pain has resulted in several cases met with, for about a year, from the simple expedient of banking up the shoe so as to support the arch.

widening the tread of the shoe and thickening the sole and heel a little on the inner side, with simultaneous treatment of the painful callosities over the heads of the metatarsals.

Charcot's Disease of the Joints.—Some years ago I had under my care a woman with a well established syphilitic history, who at one period developed rather rapidly a painless effusion into the ankle joint which was followed by bony hyperplasia and finally subluxation. It was free from tenderness at all times, but marked crepitus could be elicited whilst all the ligaments about the ankle and medio-tarsal joints became markedly relaxed and marked bony thickening developed. These characteristics together with the luetic history led to further examination, with the result that a well-marked Argyll-Robertson pupil, and complete loss of the knee-jerks along with one or two disturbances of sensation soon established the diagnosis of Charcot's joint in a patient suffering from tabes dorsalis.

In obscure cases of osteo-arthritis in middle-aged subjects it would be advisable to examine the condition of pupils, reflexes and sensation in order to eliminate tabes, as these arthropathies (Dana—Diseases of the Nervous System, p. 238) come on in the prodromal and early stage of the disease in over half the cases, and are often at first unrecognized.

Gonorrhœal Teno-Synovitis.—A young married woman complained to me of "rheumatism of the foot," the pain felt chiefly in the heel but radiating also up the leg. Examination showed a well-marked synovitis of the tendo achilles and to a slight degree, tenderness, heat and puffiness in the region of the ankle and mid-tarsal joints. I had treated the husband previously for a specific urethritis, and there was definite evidence of pelvic infection in the wife. Otherwise I should certainly have failed to recognize the condition.

Hammer Toe.—The condition may be congenital but is usually acquired, often at an early age, from the pressure of too short shoes and socks, the second toe suffering most on account of its relative length. It is usually bilateral. The treatment in my hands has not always been satisfactory. Some time ago, however, I read an article by Mr. Thomas, Senior Surgeon to the Birmingham Orthopedic Hospital, urging a trial of the "tomato" splint. This splint, which I shew you, is made in six sizes by Down Bros. of London, and from even a limited experience I can strongly recommend a trial of it. In the cases that are not cured by this method, resection of the joint as recommended by Whitman is to be advocated and preferable to mutilating the foot by amputating the toe.

Ingrowing Toe Nail.—This is most commonly due to improper hygiene of the feet. Sweating feet with lack of cleanliness, improperly trimmed toe-nails and narrow-toed boots offer the best conditions for a suppurative process near the anterior edge of the nail. The epidermis becoming macerated, a small amount of friction between the edge of the nail and the skin will be sufficient to cause an excoriation. When this has once occurred, every step taken rubs the coccus-laden dead epithelium into the mouths of the lymphatics and an ulcerative condition soon results.

In the early stages appropriate treatment will often arrest the process. This consists of (a) antiseptic foot-baths, (b) daily changing of stockings with sprinkling into them of unirritating antiseptic powders, (c) packing of antiseptic gauze under the edge of the nail, and (d) the wearing of correctly patterned shoes. Far superior to their predecessors in the treatment of this affection are formaldehyde and picric acid. The great advantage of the former is that in addition to its powerful antiseptic action it undoubtedly cures in a majority of cases the associated hyperidrosis and bromhidrosis. Gerdeck experimented on a large number of soldiers and found formaldehyde best used as (a) a powder mixed with some inert powder in the strength of 20 to 100 for sprinkling in the stockings, and (b) as the concentrated solutions and its attenuations with water for painting on the feet.

CONCLUSIONS.

(1) That a more careful study of the anatomy and especially the physiological mechanism of the healthy foot will result in the detection of many minor disabilities which can be remedied or cured to the great advantage of both physician and patient.

(2) That deformities of the flat foot class may give rise to so-called neuralgic or rheumatic symptoms in the legs and back which may lead the practitioner quite astray if methodical examination of the anatomical condition and functional activity of the feet be omitted.

(3) That local affections of the feet may first call attention to the presence of some general disease, e.g. the perforating ulcer of the foot in tabes.

(4) That the rarer vaso-motor and other affections of the feet should be borne in mind so as to avoid being led astray on their occasional appearance.

(5) That in the minor operative measures undertaken for the correction of foot deformities the same scrupulous care should be observed in

antiseptic technique as in a major operation—perfection of result depending largely on this factor.

(6) That a diagnosis of "rheumatism," localized to the feet, should not be made until a thorough examination has eliminated the class of deformities and disabilities referred to.

GALL STONES IN THE COMMON DUCT.

Dr. A. B. Atherton, Fredericton, N.B., followed with a paper, "A case of Gall Stone in the Common Duct without pain; operation; recovery."

A discussion followed this paper. Dr. Birt thought the paper enforced the need of the exploratory incision in acute abdominal diseases. Dr. McKeen, Glace Bay, advocated the use of drainage, instead of stitching, after operations on the common duct, the better plan being not to attempt suture. Dr. Cullen, of Baltimore, emphasized the idea of early exploratory operation, not only in the common duct but also in the stomach, when affected. He also thought it wise to leave a good sized drainage in the duct. Dr. Atherton then replied.

REPORT ON THE PRESIDENT'S ADDRESS.

Committee on President's address now submitted the following report:

To the President of the Maritime Medical Association and Members

We, your committee, to whom was referred the President's address, beg to report as follows:

1. That we heartily approve of the importance of vital statistics: and congratulate the President on the amount of historical information gleaned by him, which must be of value to every man in these Provinces.

2. We recommend that the Federal Parliament be memorialized on the subject with a view of obtaining full, practical and uniform legislation for the whole Dominion.

3. We would recommend that the whole text of the President's address be published in the *Maritime Medical News*.

All of which is respectfully submitted. H. A. March, chairman, R. McNeil, G. A. B. Addy.

Moved by Dr. McNeil, and seconded by Dr. Trennaman, that the report be accepted.

ACUTE SUPPURATIVE PERIHEPATITIS.

Dr. VanWart, of Fredericton, N.B., then read a paper on a case of the above disease with operation and recovery.

Mr. R., male, unmarried, aged 21, occupation laborer in a saw-mill, admitted to hospital, Dec. 26th, 1902. Present illness began Dec. 20th, 1902.

Present State—slight aphasia, temperature 101.4, pulse 80, respirations 20, skin dry, tongue much coated, breath offensive; no sweating, chills or jaundice, bowels loose; Urine highly colored, sp. gr. 1024, no sugar, albumen or bile. The lower border of the liver extends anteriorly one inch below costal margin of ribs, and is very tender on pressure.

History of Illness.—On Dec. 19th, while handling lumber, patient felt a pain in right side. The following night the pain became more severe, with cramps. He had also nausea, vomiting and looseness of the bowels. The temperature kept rising and he had been ill a week when his physician ordered him to the hospital. After a careful examination I concluded there was pus in or about the liver, and that an exploratory incision was the only rational remedy.

In making a differential diagnosis, the physical signs were abdominal, not thoracic. Previous good health, sudden onset, localized pain and tenderness on pressure, a history of traumatic irritation and muscular rigidity pointed to pus about the liver. The absence of chills and sweating excluded pus in liver proper.

Operation, Dec. 28th.—An incision was made, beginning two inches below the costal margin of the ribs, in line with the tenth, downward and outward, for three inches. On examining the middle of the right lobe of the liver, anterior and upper surfaces, I could detect fulness and fluctuation, also slight adhesion between the liver and thoracic wall. Appendix vermiformis was normal.

I opened the swelling with my finger, having previously walled off the adjacent parts with sterile gauze. A free escape of odorless pus followed. Capsule of liver was felt intact. The cavity was well wiped out with gauze pads and a gauze drainage inserted to the bottom of the cavity.

Dec. 29th.—The outside dressing was removed, there was free escape of odorless pus and patient comfortable.

Dec. 30th.—A.M., temperature normal, pulse 80; p.m., temperature 100°, and pulse 86.

Dec. 31st.—The gauze drain removed and cavity irrigated with normal saline solution. A piece of rubber drainage tube was introduced. The wound was irrigated and dressed daily until pus ceased to come away. It was allowed to heal by granulation.

Jan. 2nd, 1902.—Pulse and temperature continued so until discharged from the hospital on Feb. 24th.

July, 1903.—Patient reports he is in good health. Has taken on flesh. Incision sound.

This is a case of acute suppurative perihepatitis due to traumatism. The rarity and points in diagnosis led me to report the case.

In discussion, Dr. E. A. Codman, of Boston, asked if the appendix was normal and whether, after making incision, it could be seen that the cause was not the appendix. Also stated that, in making diagnosis, great care should be taken to find out the cause of trouble.

Dr. Atherton, of Fredericton, reported a case of perforation of small intestines due to heavy lifting.

Dr. Cullen, Baltimore, agreed with Dr. Codman that the essential point is to get at the cause of the trouble, and where a definite diagnosis cannot be made to explore at once. He cited a case where, a few days after heavy lifting, a perinephritic abscess developed.

Dr. VanWart, in replying, said that the appendix was normal.

PELVIC HEMORRHAGES.

The President of the Nova Scotia Medical Society, Dr. Chisholm then read his address on Pelvic Hemorrhages. Before taking up the discussion of the subject, he referred to those who had died during the year, viz.: Drs. D. H. Muir, Truro; H. D. Densmore, Elmsdale; F. S. Wade, Maitland; R. A. Dakin, Pugwash; P. C. C. Cameron, Westville, and Mr. Hardy, a fourth year medical student, who died in Labrador.

In discussion of this paper, Dr. Cullen congratulated Dr. Chisholm on his able address and the success which had attended the different cases reported. He also spoke of several somewhat similar cases in his own practice. He recommended early operation.

BLOOD EXAMINATIONS.

Dr. D. G. J. Campbell then read a paper written by Dr. C. Simon, of Baltimore, who was unable to be present. The subject was Blood Examination in Suppurative Cases.

Drs. Addy and Cullen spoke on the paper, the latter quoting the following cases: Pain in the iliac fossa, absence of eosinophyles, no rigidity but found abdomen full of milky fluid. Appendix adherent and it was removed. Found a stricture of intestine and a perforation of ascending colon.

MEDICAL FEES.

Dr. Henry P. Clay, Pugwash, N.S., followed with a paper on Medical Protection.—Insurance fees, Railroad fees, etc.

Dr. Farrell thought that Dr. Clay deserved encouragement and should receive some endorsement from the Association, and moved that a committee be appointed by the Chairman to deal with any grievances

contained in Dr. Clay's paper and take up the subject of medical fees, etc. Seconded by Dr Walker. Carried.

The President then appointed Drs Farrell, H Stewart and Wetmore as a committee to confer with Dr. Clay and report to-morrow.

EVENING SESSION.

UTERINE HEMORRHAGES.

The first paper was that of Dr. Cullen, of Baltimore, on Uterine Hemorrhages and their causes. His address was illustrated by drawings. This paper will appear in a future issue.

In discussion, Dr. Chipman, Montreal, was glad that attention had been drawn to the early prognosis of cancer.

Dr. Cushing, Boston, also spoke.

Dr. J. Stewart, Halifax, emphasized the value of microscopic work in diagnosis.

Dr. Cullen, in replying, touched upon the subject that so many cases come to the notice of the general practitioner when it is too late. Further stated that there should be a pathological basis for the work.

Dr. Walker, St. John, moved a vote of thanks to Dr. Cullen for his able address.

In seconding the motion, Dr. McKeen, Glace Bay, said that one reason why so many cases do not present themselves to the medical profession is due to the fact that the magazines and papers are filled with advertising matter, which women take advantage of instead of consulting the physician. He felt that it is a matter for regret that many of the medical journals give space to the same kind of advertising matter.

THE X-RAYS IN DISEASES OF THE BONES.

Dr. Codman, of Boston, then followed with his paper, The Use of the X-Ray in the Surgery of Diseases of the Bones. He said that he had always been particular in the interpretation of the x-ray picture. He dealt with the subject under four heads: (1) Knowledge of the essentials of an x-ray picture. (2) The knowledge of the normal x-ray anatomy. (3) A knowledge of the pathology of different forms of bone diseases. (4) The ability to form diagnosis from the x-ray picture. This address was illustrated by blackboard drawings and a series of most interesting screen pictures from lantern slides, showing various phases of diseased bones. He considered the x-ray important in that it showed when to amputate.

EUROPEAN GYNAECOLOGY.

Dr. Chipman, Montreal, next read a paper on Some recent Developments in European Gynaecology. The first part gave an account and description of his impressions of the hospitals in Vienna, Berlin, London, Edinburgh, St. Thomas and Liverpool. The second part dealt with clinical and operative work. The doctor took up the method of extirpation of Uterine Cancer. He believed the right and proper treatment to be the removal of the organ. Then proceeded to give a report of the different methods employed in performing the operation. He considered the best method to be the abdominal instead of vaginal.

JULY 7TH—MORNING SESSION.

ELECTIONS AND BUSINESS.

The nominating committee reported as follows: President, S. R. Jenkins, M. D., Charlottetown, P. E. I.; Vice-Presidents, F. F. Kelly, M. D., Charlottetown, P. E. I.; G. DeWitt, M. D., Wolfville, N. S.; G. C. VanWart, M. D., Fredericton, N. B.; Secretary, T. D. Walker, M. D., St. John, N. B.; Treasurer, Huntley McDonald, M. D., Antigonish, N. S.; Local Committee, P. Conroy, M. D.; J. Warburton, M. D.; F. P. Taylor, M. D.; R. McNeil, M. D.; —. Dewar, M. D.; Local Secretary, H. D. Johnson, M. D.

Moved that the report be received and adopted.

ADDRESS IN MEDICINE.

Dr. W. F. Hamilton, of Montreal, then followed with the Address in Medicine which will appear in the CANADA LANCET. His remarks were based on his clinical experience in the hospital, with which he is connected.

In discussion, Dr. DeWitt said that one strong point of the paper was that it showed the difficulty of diagnosis; and it must be encouraging to some present to hear, from such a source, that many diseases are attended with difficulty of diagnosis. Cited the case of a lady, who had hemorrhage, presumably of the lungs. On examination, no lesion found, no cough, no sputum, but there would be at night a little hemorrhage and a bloody taste in the mouth in the morning. After several attacks, extending over three years, it was discovered that the cause was a varicose condition of the veins at the base of the tongue. After treatment for that trouble the patient is apparently now well, having had no recurrence of the hemorrhage for six months. He then moved a vote of thanks to Dr. Hamilton.

Dr. Goodwin, in seconding the motion, said that he considered it very fitting that Dr. Hamilton should read a paper before this Association, as he is a Maritime boy. He also thought that in the reading of this paper many would find themselves on more familiar ground, than in some others which had been delivered.

TUBERCULOSIS OF THE URINARY ORGANS.

Dr. Ernest W. Cushing, of Boston, followed with a paper, A case of Tuberculous Kidney and Ureter. Specimens were shown from the two cases cited. This paper to be published later.

Dr. J. Stewart spoke of the danger of affecting the bladder from the kidney, and also of the difficulty in distinguishing whether the disease is in the bladder or the kidney. Sometimes instead of scattered foci, the whole kidney seems converted into an abscess, and when the kidney is removed a layer of secretive substance is still left. When a large amount of secretive substance is left it is better perhaps to incise, drain and later remove the kidney. He moved a vote of thanks, which was seconded by Dr. McKeen, who agreed with what Dr. Cushing had said. Thought it better to take the chance and have the operation performed.

Dr. Walker referred to a case of tuberculous kidney in which Creasote had good effect, while Salol had no effect at all. Motion carried.

Dr. Cushing said, in reply, that in opening a tuberculous kidney there is always danger of infecting the wound, Better wait until compensation is established in the other kidney.

LEGISLATION RE BLINDNESS.

Dr. Kirkpatrick, Halifax, N. S., then read a paper, "Legislation for the Prevention of Blindness." He asked that a resolution be passed by the Association and a committee appointed to deal with the matter.

Dr. Jones said legislation was passed in the matter of Ophthalmia. Dr. Kendall brought a Bill into the House of Assembly, which was passed. When it reached the Legislative Council, Dr. Parker considered that it was not workable in the way it was worded and it was thrown out. Suggested that, if a Bill be drawn up on the basis of the Maine Law, it might be passed.

Dr. Walker thought it a most important matter and, even if legislation could not be obtained, a great deal of good might be done, if the medical profession kept this matter always before them. He had found, in Maternity Hospital work, that the only kind of legislation that kept the disease down was Nitrate of Silver.

Dr. M. A. B. Smith spoke of a case in which he used 35 per cent. solution of Argyrol. Although a bad case, the child recovered. He then read the following resolution: *Resolved*, that this Association approves of an appeal to the Legislature of the Maritime Provinces seeking legislation for the prevention of blindness, such legislation to be along the lines of Dr. Kirkpatrick's paper. Resolution carried. The President then appointed the following committee: For Nova Scotia, Drs. Kirkpatrick and Huntley McDonald; for Prince Edward Island, Drs. Murphy and H. D. Johnson; for New Brunswick, Drs. Thos. Walker and J. R. McIntosh.

OPERATION FOR SLIPPING OF THE PATELLA.

Dr. R. A. H. Mackeen, Glace Bay, N.S., then followed with a paper, Goldthwaite's operation for the relief of recurrent slipping of the Patella with report of a case. This address was illustrated by a diagram. Said in closing, that he knew of no operation that was more successful than the one just described.

Dr. Walker complimented Dr. Mackeen on the interest and conciseness of his paper.

Dr. Stewart spoke of this operation having been performed at the smaller hospitals of Nova Scotia, St. Joseph's, Glace Bay, and the Aberdeen at New Glasgow.

Dr. M. A. B. Smith spoke of the use of steel appliances and reported a case where such treatment had been successfully used, in dislocation of the knee cap.

OBSTRUCTION OF THE OESOPHAGUS.

Dr. J. Stewart, Halifax, N.S., read a paper on Obstruction of the Oesophagus. His subject was illustrated by diagram. Prognosis should be guarded. Cited a case where a toothpick had been taken from the Oesophagus, after having been there for six years.

Dr. Atherton spoke of a case of stricture of the Oesophagus. The patient could not take any food or liquid except through a glass tube. Could not take a drink of water from a cup without regurgitation. The stomach was opened and a whalebone bougie inserted. For three cases of foreign bodies he performed Oesophagotomy. In some cases, in order to get a string down into the stomach, there is trouble as the patient cannot swallow and it is necessary to use a whalebone bougie.

Dr. Codman spoke of those with cancer, in which the question of relief is the important thing. Reported a recent case in his own practice. The chief difficulty was the desire for food and the inability to swallow it, the patient being hungry and trying to take food. After taking liquid

there was regurgitation. Finally the smallest possible tube was put down and the patient fed through that. He considered it unwise to pass bougies in malignant diseases. In the latter, there is often trouble in passing the ordinary straight bougie, as you are apt to miss the opening. It is necessary to use a Coudé curve. He spoke of foreign bodies in the bronchi in which, by performing tracheotomy and using a urethroscope, the foreign bodies can be picked out.

AFTERNOON SESSION.

CASE REPORTS.

The first paper was read by Dr. T. C. Watson, Halifax, N.S. He reported the following cases, interesting congenital tumor, and Graves' disease, an anomalous case.

In discussion, Dr. Doyle said that the chief point was the peculiarity of diagnosis in the second case. First thing in this disease is tachycardia, which is absent in Dr. Watson's case. Other symptoms can be explained as due to arterial sclerosis. The tremor may be due to the nephritis. We do not know what the normal prominence of his eyes were. There is nothing to point to diagnosis except the exophthalmos.

Dr. Walsh was called upon but did not wish to make any remarks upon the paper.

Dr. Watson, in reply, claimed that the absence of tachycardia is a rare occurrence, but that he had given reasons for it in his paper. The tremor and nervousness as due to arterio-sclerosis is not tenable. The cause of the disease is not any better understood than forty years ago.

CARBOLIC ACID POISONING.

Dr. W. E. Moore, Kentville, N.S., then followed with a paper, case of Carbolic Acid Poisoning. Treatment used was Jamaica rum and hypodermic injections of strychnine and atropine.

Dr. Goodwin said that alcohol seems to be the antidote for carbolic poisoning.

Dr. M. A. B. Smith reported a case where a woman had taken a tablespoonful of carbolic acid. She at once took a drink of milk but shortly became unconscious. The lips and mouth were burned and, when on attempting to pass a stomach tube he found such a resistance, due probably to stricture of the œsophagus, that it could not be done, then used a large rectal enema of sulphate of magnesia. In addition gave brandy and strychnine. After seven hours, the patient showed signs of returning consciousness. Thought that sulphate of magnesia ought not to be overlooked as an antidote.

Dr. Wetmore spoke of an old man, who swallowed one ounce of carbolic acid immediately after eating a hearty dinner, which had been of a fatty nature. Dissolved sulphate of magnesia and poured it down. Patient vomited freely and there was no bad effect except that he was burned. If the sulphate was of any value, in this case, it must have acted locally.

Dr. Armstrong reported the case of a woman who had been left alone in the house and was found unconscious, with a strong smell of acid prevailing. Thirty-five minutes after, on his arrival, found her in a state of coma. Could not get her to take any medicine, so poured some alcohol down, but did not think it reached the stomach. Also used hypodermic injections.

INSURANCE EXAMINATION FEES.

The Secretary read the following telegram, which had been received from E. A. Lawson, of the Confederation Life.

"Belated advice behalf of Life Officers' Association, asking me to represent its interests, if fee question raised. It being impossible to return to Halifax in time, would ask your Association, as act of courtesy, to desist in any action favoring a change until Life Officers' Association be given an opportunity to confer with a committee of men from different points at a convenient date."

Dr. Walker stated that, as the telegram had been received at a time when it could not be brought before the meeting and a reply was necessary, he had sent the following answer:

"Feeling strong, but in deference to request will try to defer action until next meeting, pending conference."

Dr. C. D. Murray did not think that the telegram sent implicated the Association at all.

Dr. Clay considered that the medical profession had been slaves to the public and thought that the matter should not be dropped until recognition had been granted to the same extent as is now given to the legal fraternity. Then moved the following resolution: "Resolved that this Maritime Medical Association desires to place on record its appreciation of the action taken by the Lunenburg Queens Medical Society in refusing to accept Insurance examination at a less figure than \$5.00, said action having been already endorsed by the Nova Scotia Medical Society.

"Further resolved that the Medical Societies of New Brunswick and Prince Edward Island be requested to take the matter into consideration, as well as the fees for attending on railway employees and other corporations and government services.

"Further resolved that the members of the profession throughout be urged to complete county society organizations, with a view to a still further betterment of our professional condition."

Dr. Reid did not recollect ever making a life insurance examination for less than \$5.00.

Dr. DeWitt asked the question, whether the resolution referred to the making out of death certificates as well as to insurance examination. Said that at one time he made out five certificates and charged \$12.00. The papers were sent to Halifax but returned by the executors, who said that he had made a mistake and charged too much, as a medical adviser in Halifax had said that \$1.00 each was enough.

Dr. Clay thought that the payment for certificates rested entirely in the hands of the parties receiving benefit from the insurance. He knew of a surgeon, at the Hospital, who had sent a bill for \$5.00 for one certificate and received it. Resolution carried.

TELEGRAMS.

Dr. G. M. Campbell moved that a telegram of congratulation be sent to the first President of this Association, Dr. Bayard of St. John, who had just passed his ninety-first birthday

A telegram was received from Lieut. Skinner and Majors McLarren and Bridges, who are at camp in Sussex, regretting their absence from the meeting and wishing the Association every success.

NOVA SCOTIA HEALTH ACT.

Dr. A. P. Reid then read a paper on The Public Health Act in Nova Scotia.

In discussion, Dr. Clay said that Dr. Reid's paper was a very timely one. Health Acts are very difficult of enforcement in the rural districts. The difficulty exists principally in providing funds for the enforcement of the Act. Said that the committee, who had been appointed to interview the government, found them quite willing to do what they could and they had carried out the promises made. Having made a start in securing a fairly workable Health Act, he thought the good work had better be continued. Those who have trouble in enforcing the Act have only to call upon Dr. Reid, Provincial Health Officer, as he has power to force the local authorities to act.

Dr. DeWitt moved the following resolution: Resolved, that to carry out his duties, the Provincial Health Officer should make himself acquainted with the Municipal Councils and advise with them. He should see that the local Boards of Health are in working order and

properly organized. He should visit all the health officers, from time to time and see that they have a clear grasp of their duties. Should consult with the Inspectors of schools to the end that the hygienic requirements be complied with

Dr. DeWitt thought that the greatest harm in the country districts is from undrained soil and considered that a law ought to be passed, prohibiting a man from building a house on land, which had not been properly drained.

Dr. Armstrong seconded the resolution. In connection with the resolution Dr. L. M. Murray read Sections VI and IX of the Health Act. He also spoke of the salary of the Provincial Health Officer and thought if it was not sufficient to allow him to do his duty, it ought to be increased.

Dr. Cowie did not favor the idea of entering into any negotiations with the Provincial Government in regard to salary. Spoke of the duties of the Health Officer.

Dr. Reid said our business is not to dictate to the Government. The Act is general but does not cover details. The Health Officer should know all the Municipal Councils, Health Boards, as well as doing the duties spoken of in the Act. The resolution was purely suggestive, merely stating what the Association would expect the Officer to do.

Dr. Wetmore of Hampton, N. B., did not think much would be done by dealing with the Municipal Councils, but have good Health Boards. In New Brunswick the Government appointed a chairman in each district. The Municipal Council then appointed two others. If the Health Officer would communicate with the heads of the local Boards and try to enthuse them, more would be accomplished than by dealing with Municipal Councils.

Dr. Ross thought that the matter, under discussion, belonged to the Nova Scotia Society instead of the Maritime Medical Association, and it was so referred.

Votes of thanks were tendered to the railway and steamboat companies, to the *Maritime Medical News*, to the profession in Halifax for the manner in which the members had been entertained, and to the president and secretary for their efficient discharge of duty.

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EDITORIAL

PROFESSOR WILLIAM OSLER.

The news has just come that Prof. W. Osler, of Johns Hopkins University, Baltimore, has been appointed Regius Professor of Medicine in the University of Oxford, succeeding Sir John Burdon-Sanderson. His Majesty, King Edward, could not have approved of a more suitable selection for the vacant chair.

Dr. Osler has a reputation that is world wide. His work on the blood and blood diseases, his researches in pathology, his investigation on the plasmodium malarie, his numerous contributions to medical literature, his brilliant career as a lecturer, and his charming personality, have all tended to make him one of the best known and most highly respected of medical men in the British Empire. In 1883 he delivered the Goulstonian lectures, taking as his subject Ulcerative Endocarditis. He was President of the Canadian Medical Association in 1885. In 1887, he gave the Cartwright lectures at the College of Physicians and Surgeons, of New York. His practice of medicine is found in almost every doctor's library. The late Sir Grainger Stewart said at the Edinburgh meeting of the British Medical Association, that "before I address my class, I look up Osler to see what he has to say."

He commenced his medical studies in Toronto in 1868. While in Toronto, he formed the acquaintanceship of the late Dr. Bovell, who was an ardent student, and from whom Dr. Osler drew much of his love for medicine and his inspiration to achieve distinction. Leaving Toronto, he proceeded to McGill University, Montreal, from which he graduated in 1872.

For many years he was an esteemed teacher on the medical faculty of McGill, lecturing on Physiology, Pathology and Clinical Medicine. Much to the regret of the authorities of McGill University, he severed his connection with it in 1884 to accept the position of Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, a position which he held for a number of years with marked credit to himself and satisfaction to the University.

In 1889, he was called to Baltimore to fill the high and responsible position of Physician-in-Chief to Johns Hopkins University. It is not

straining language to state that he had much to do with making the great reputation which this University has attained as a scientific centre. Without Osler, Johns Hopkins would have been something quite different to what it has been during the past many years

That he will shed lustre in the University of Oxford, there is no doubt. One could hardly imagine a field more suited to the tastes of Dr. Osler than the distinguished group of colleges in connection with that University and the medical college and hospital of that ancient city.

Dr. Osler has attained to a very high standing in the world of science and letters. He is a Fellow of the Royal College of Physicians, a Fellow of the Royal Society, an LL. D. of the Universities of Toronto, McGill, Yale, Aberdeen and Edinburgh, and a D. Sc. of the University of Oxford. In conferring the latter degree upon him a few days ago, the following words were used: "Among those who apply the results of modern science to the investigation of the causes and the cure of diseases, few have attained greater distinction than William Osler. By his professional teaching, first in Montreal and afterwards in Baltimore, by his writings, which deal partly with questions of abstract science and partly with questions concerning the practice of medicine, and by his skill as a physician, he has been for many years a leading exponent of the principle that the art of medicine should be based upon the most exact scientific knowledge of the day. For his work in exemplifying this principle, as well as for the merits of his contributions to science, he was elected a Fellow of the Royal Society. In him, also, we welcome a representative of one of those daughter states which are the pride of the Mother Country—the Dominion of Canada—and also of that great Republic of the West, whose people, bound to us by the closest ties of kinship, are also among our best friends."

We wish for Professor Osler many years of useful labors in his new field, and we sincerely trust that he may play no small part in the solution of the many burning problems now engaging the thought of the medical profession. When the final count is made, we hope that the words of Virgil may prove true of Osler: *Resum pars magna fuit.*

SENATOR SULLIVAN ON PATENT MEDICINES.

The thanks of the profession is due Hon. Senator Michael Sullivan M.D., of Kingston, for his action in the Senate of Canada on the question of patent medicines. On 5th August, 1894, he moved the following resolution:—

"That an humble Address be presented to His Excellency the Governor-General, praying that His Excellency will cause to be laid upon the Table of the Senate a statement showing the names of all liquid mixtures known as patent or proprietary medicines purporting to remove the most varied forms of diseases occurring in the human body, and, when weakened by such disease or by any indulgence, habit or accident, to restore it to its former strength and vigour. Showing also the amount of money, if any, paid by importer, maker, mixer or vendor, to the Government as special tax or license, and to whom paid. Showing likewise if the government has any knowledge of the ingredients which are employed to make these compounds :—

"(1) Has such knowledge been acquired from the statements of the parties who have the formulæ ?

"(2) Has it been acquired by qualitative or quantitative analysis of the Dominion Analyst, or by any other practical chemist, if so, what quantities are contained in a determinate measure, say one fluid ounce, of the following named ingredients :—

"(1) Water, quantity in determinate measure, say one fluid ounce, of the preparation examined.

"(2) Alcohol in any form, other than absolute; methylated or proof spirit or any other form; essences, ethers or any other solvent; colouring or flavouring substances; and, lastly, the solid ingredients in said preparations, the quantity and names of each."

In his speech the Hon. Senator Sullivan made a vigorous attack on the patent medicine business as a whole, but particularly on liquid mixtures on account of the large amount of alcohol which many of them contain, as well as dangerous drugs, such as opium, chloral, bromides, etc. He referred to the fact that many of these liquid mixtures contain large quantities of alcohol, in some instances as much as 40 per cent. He also pointed out the fact that the ingredients in these compounds were quite unimportant and could not accomplish the cures claimed for them.

In speaking of the testimonials he pointed out that these could easily be purchased. There were persons who could be induced to sell a testimonial for 25 cents. Many testimonials were also bogus. Indeed, it may safely be said that there are persons who pose as public men, ministers, doctors, lawyers, etc., who can be induced, for a fee, to give a certificate containing the most extravagant statement regarding the wonderful merits of certain patent medicines. When these testimonials are carefully examined they do not bear the convincing marks of truthfulness. There are ministers of the most nondescript denomina-

tions, and those who call themselves "doctor" and sign "M.D." to their names, who never were in a college nor passed a single examination. Testimonials have been purchased from prominent persons for which large sums were paid.

In any measure, or legal enactments, passed by the Government to regulate the sale of patent medicines, a few well recognized principles should be clearly set forth. The makers should be compelled to give the exact composition of the compound put on the market; all guarantees of cures should be strictly prohibited, as this is practically fraudulent; the publishing of abusive statements about physicians and surgeons should be stopped; the right reserved to examine testimonials for their genuineness; and authority to enquire into cases reported as cured.

To show the absurdity of some of these testimonials let us mention one. Some time ago we saw a recommendation of a certain medicine from a prominent clergyman; but the amusing part of the whole affair was that the name of the medicine was an absurdity and a chemical impossibility. The thing mentioned in the name could form no part of the compound. And yet the medicine was highly praised by a prominent clergyman!

QUACK ADVERTISEMENTS AND THE MAILS.

During the recent session of the House of Commons, Sir William Mulock introduced the following amendment to the Postal Act:—"It shall not be lawful to transmit by mail any books, magazines, periodicals, circulars, newspapers or other publications which contain advertisements representing marvellous, extravagant or grossly improbable cures, or curative or healing powers, by means of medicines, appliances or devices referred to in such advertisements." After some discussion, the amendment was agreed to; but, later on, was dropped for the present. During the discussion Sir William Mulock, the Postmaster General, said:—"It was necessary to put a stop to the methods of scoundrels who advertise marvellous cures and make fortunes out of the unfortunate sufferers. Only the other day one advertisement claiming supernatural powers and shocking in its nature was published. This method of making fortunes was one of the hugest frauds allowed by the law of the land."

We could point out some most scandalous instances of the most objectionable stuff being sent in great quantities by post. In one instance of recent date, a circular of the most filthy character came into our possession, dealing with the sexual functions, and containing

alarmist statements, calculated to frighten young men, and holding out to them the benefits of some wonderful cure. There are many serving in Kingston whose records are clean compared with such persons. We trust that at the next session a stringent amendment will be adopted, prohibiting the use of the mails for such literature. In the meantime, we hope Sir William Mulock will continue in his present laudable purpose.

AN OBJECT LESSON IN CHRISTIAN SCIENCE.

Some years ago Christian Science was introduced into this country from the United States. In Toronto, the followers of this belief have a church on Simcoe street, the late, Mr. J. H. Stewart having been an active spirit in it. He died on 9th August, after an illness of some months. He had received some injury, but how far it caused his illness we do not know. Here we have a leader of the Christian Science cult meeting with an accident, becoming ill, steadily growing worse, and finally dying.

Let us now quote a few passages from the writings governing the sect: "Have no fears that matter can ache, swell, and be inflamed, from a law of any kind, when it is self-evident that matter can have no pain or inflammation. Your body would suffer no more from tension or wounds, than the trunk of a tree you gash, or the electric wire which you stretch, were it not for mortal mind."

And again: "When an accident happens you think, or exclaim, 'I am hurt,' your thought is more powerful than your words, more powerful than the accident itself to make the injury real. Now reverse the process. Declare you are not hurt, and understand the reason why; and you will find the ensuing good results to be in exact proportion to your disbelief in physics, and your fidelity to God." Once more, "You say that accidents, injuries and disease kill man; but this is not true. The life of man is mind. The material body manifests only what mortal mind admits, whether it be a broken bone, disease or sin."

In the case of the late Mr. Stewart, a leader of the Christian Scientists, several interesting questions arise. Is the entire Christian Science practice a failure? Or did Mr. Stewart lack faith in what he taught to others? Or why did his mortal mind admit disease to be present in his body? Or did he die without disease but as the result of an admission of his mortal mind? If he died as the result of disease, then, according to his own teaching, it could only be in his body as an admission of his own mind. But why did he admit the presence of any

infirmity? "Sin, sickness and death should cease through Christian Science." In Mr. Stewart's case disease did not cease. He was either unable to check the disease, or he "admitted" by his "mortal mind" that there was disease and died from the effects of a notion or erroneous thought, which a leader of the sect should have been able to correct.

In the illness and death of the late Mr. Stewart, a prominent leader of the Toronto Christian Scientists, we are furnished with an excellent example of the futility of their teachings. In the case of children, we are told, "until the advancing age admits the efficacy and supremacy of mind, it is better to leave the adjustment of broken bones and dislocations to the fingers of a surgeon." In the case of Mr. Stewart, "advancing years" had not attained to the requisite "efficacy and supremacy of mind" to "confine itself to mental reconstruction and the prevention of protracted confinement."

We are told: "While the spell of belief remains unbroken, sin, sickness and death will seem real until the science of man's unbroken harmony breaks the illusion with its own unbroken reality." So, in the case of the late Mr. Stewart, "the spell of belief remained" and his "sickness and death" was real. He did not attain to "the science of man's unbroken harmony," and therefore the "illusion" was an "unbroken reality."

According to Christian Science, everything is the result of thought. Strychnine gets its poisonous properties in this way. When a person swallows strychnine, not knowing what was taken, it exerts its harmful influence because people believe it is a poison. Thus it may be that this majority opinion that injuries injure and diseases cause death led to Stewart's death. If this be so, his death was due to the thought of others. Here we reach a *reductio ad absurdum*. "Arnica, quinine, opium, could not produce the effects ascribed to them except by imputed virtue. Men think they will act thus on the physical system, and consequently they do. The property of alcohol is to intoxicate; but if the common thought had endowed it with a nourishing quality like milk, it would produce a similar effect."

And likewise common thought has endowed injuries and diseases with evil qualities; and, despite the thought of a Christian Scientist, in conformity with this common thought, these agencies keep on taking life, even that of a leader among them.

The Rev. Andrew F. Underhill very aptly puts the case in the following words: "The Christian Scientist will beg the question in the case of a fatality, by simply saying that the thought of the injured

person was in some way defective, and therefore no cure could ensue." This would be a harsh indictment in the case of the late Mr. Stewart. And yet it comes from Christian Science teachings! Towards his end he received what relief a regular physician could afford him.

THE ONTARIO MEDICAL LIBRARY ASSOCIATION.

For many years the books belonging to this association have been housed in very inadequate space in the building owned by the College of Physicians and Surgeons of Ontario. It has always been felt that some better accommodation should be secured, if the library was ever to become popular and receive general support from the members of the medical profession throughout the Province of Ontario. The conditions under which the Library Association has been laboring were so unfavorable that the funds were reduced to a very low ebb, and the affairs of the Association reached an acute phase.

It was felt that the time had come when an effort should be put forth to place the Ontario Library Association on a sound footing. Drs. Ross, Reeve, Powell, McPhedran, Bruce, and several others took the matter in hand. As a result of these efforts a sufficient amount of money has been secured to enable the committee to purchase the Thorne residence, No. 9, on the east side of Queen's Park. No more desirable spot could have been secured. It is close to an excellent street car service, and is just far enough removed from the main thoroughfare to be enjoyably quiet. The grounds are ample and permit of future extension of the present building should such ever be required. It is a perfectly home-like spot, free from noise and dust, and with an ample supply of light and air, as the adjacent buildings do not crowd in upon it. The building will soon be fitted up suitably for the books and for the holding of meetings. We hope the time is not far distant when all will be able to say in the words of Horace: *Ille terrarum mihi præter omnes angulus ridet.*

The doctors have done well in this matter and subscribed generously towards the funds required to make the purchase and put the building in fit condition for the objects of the association. Among the larger donations may be mentioned, \$5,000, from the Massey estate; \$500 from Mr. George Gooderham; \$500, from Mr. E. B. Osler, M.P.; \$500 from Mr. T. Eaton; \$3,000 from members of the profession; and \$500, from Professor W. Osler. We understand that the property can be paid for and remodelled, leaving a good balance on hand.

There is much yet to be done. Now that there is a suitable home for the books and a collection of about 10,000 volumes for it, every doctor can do something to add to the usefulness of the Library. There is not a doctor in the province who does not have books he could give away, or journals, bound or unbound. Donations of these would always be gladly accepted. It should be the ambition of the profession of this Province to have in their Library practically every book on any medical subject. This is saying a good deal, but it is not saying what is impossible.

Another thing that doctors might do in many instances, namely bequeath their collection of books and journals to the Library. It might be that there would be many instances of duplication of books, but these can be exchanged with other Libraries for duplicates which they may possess.

Many persons will not give money to current expenses, who would readily give toward the foundation of an endowment fund. We would suggest that such a fund be opened, having no fear but that it will steadily grow. The various medical societies throughout the Province would do well to take an interest in the Library, as much could be done by them both in the way of getting donations of books and money.

We wish to draw the attention of those wishing medical practices or opportunities to the splendid list offered by Dr. Hamill, who conducts the Medical Exchange. See his list among our advertising pages.

The Doctors of Albion, Mich., have formed a combination not to attend dead beats. A list of these will be prepared.

OBITUARY.

J. H. McKAY, M.D.

Dr. John H. McKay, of Truro, N.S., died there 3rd August. Deceased was very well known throughout the Province, and was the son of Wm. McKay, one of the pioneer hotel men of Truro, and brother of Senator McKay. He was 57 years of age, and leaves a widow and family.

ROBERT M. KIPPEN, M.D.

The funeral of the late Dr. Robert Macdonald Kippen took place 18th July, from the residence of his father, 82 Byron avenue, London, to Mount Pleasant Cemetery and was largely attended. The services

at the house were conducted by the Rev. J. G. Stuart, pastor of Knox Church. The pall-bearers were all physicians of this city. They were Drs. George Clark, David Arnott and Ernest Williams, all of whom were members of the deceased's graduating class; W. J. Tillmann, A. V. Beche, and J. J. Mason, who were students of the Medical College at that time. Some beautiful floral wreaths were laid on the bier by friends, and many telegrams of condolence were received by the bereaved family. There were a large number of relatives and friends in attendance from Stratford, Woodstock, Embro, St. Thomas and other places.

BOOK REVIEWS.

DISEASES OF THE EAR.

A Text Book for Practitioners and Students of Medicine by Edward Bradford Dench, Ph.D., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College; Aural Surgeon, New York Eye and Ear Infirmary; Consulting Otolologist to St. Luke's Hospital; Consulting Otolologist to the New York Orthopedic Dispensary and Hospital; Fellow of the American Otolological Society; of the New York Academy of Medicine; of the New York Otolological Society; of the New York County Medical Society. With 15 plates and 158 illustrations in the text. Third edition, revised and enlarged. New York and London: D. Appleton and Company.

The third edition of this work on otology is considerably better than the previous editions. This is doubtless due to the greater care on the author's part to write fuller and clearer on the operative treatment of chronic suppurative otitis media, and of the various intra cranial complications of middle ear suppurations. In cases of acute middle ear suppurations, Dench is a firm advocate of early operation on the mastoid rather than re-opening the drum head. He says, page 354, "Where the drum head has been once thoroughly incised, and on a later date symptoms of incomplete drainage make their appearance, it is better to open the mastoid at once and to secure free drainage posteriorly than to temporize by resorting to a second myringotomy." While this may suit many cases, it will certainly result in a large number of mastoid operations which might very easily have been avoided. In the treatment of chronic catarrhal otitis media he does not think it advisable to remove small pads of adenoid tissue in people over 30 years of age unless it gives rise to some special disturbance, while in young subjects he advocates operative measures on the *absorption* treatment. This absorption treatment consists in the post-nasal application of silver nitrate, grains 60 to the ounce. Cases of naso-pharyngitis or acute adenoiditis will doubtless be relieved by this agent, but more pleasantly, however, by argyrol. That it is ever desirable to take this very slow

and most uncertain method to remove adenoids the reviewer seriously questions.

Fig. 156, showing the lateral aspect of the skull, with markings denoting the various landmarks for operative purposes, is very clear and of great value to any one about to open the skull. Two coloured plates show very nicely the anatomy of the lateral sinus and jugular vein.

PRACTICAL APPLICATION OF RONTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS.

By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; and Eugene W. Caldwell, B.S., Director of Edward N. Gibbs Memorial X-Ray Laboratory of the University and Bellevue Medical College, New York. Second edition, thoroughly revised and enlarged. Handsome octavo volume of 690 pages, with 195 illustrations, including 4 colored plates. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$5.00 net; Sheep or Half Morocco, \$6.00 net. Canadian Agents: J. A. Carveth & Co., 434 Yonge Street, Toronto, Ont.

This excellent work has attained the distinction of two large editions in one year—a proof not only that such a work was needed, but also of the book's practical value. The vast amount of literature accumulated during the past year has been very carefully digested, and the latest knowledge and advancements incorporated. A practical feature of the work lies in the fact that nearly all the illustrations represent actual clinical subjects, showing the benefits of the x-rays at the various stages of their application. The chapters by Caldwell give full details regarding the use and management of the apparatus, the text being fully illustrated with many photographs and drawings, including four full-page colored plates. The second edition has been brought strictly down to date, especially the case histories cited; and by the addition of much new matter, and a number of new illustrations, the usefulness of the work has been greatly extended. It is one of the latest and one of the best books on the subject.

ESSENTIALS OF PELVIC DIAGNOSIS.

By E. Stanmore Bishop, F.R.C.S., Eng., Author of "Uterine Fibromyomata, their Pathology, Diagnosis and Treatment." Hon. Surgeon Ancoats Hospital, Manchester; Vice-President British Gynecological Society, London; Ex-President Clinical Society, Manchester, etc.

Stanmore Bishop's standard treatise on "Uterine Fibromyomata" has already attracted wide attention; and his "Pelvic Diagnosis" promises, through its scholarly treatment of the subject, to attract the notice and claim the interest of many a practitioner. The chapter on "Pain as a factor in Diagnosis" is the best we have yet seen on the subject.

It is complete, clear and plain, and fairly bristles with points of practical value, and will be welcomed not only by surgeons, but by those whose duty it is to advise patients as to their future course.

The special manner in which a case to be diagnosed is traced through by the "Lines of Diagnosis" or the "Diagnostic Tables" is at once unique, interesting and highly satisfactory. Mr. Stanmore Bishop has given us a work which will certainly fill a long felt want, and one that should be in the hands of every surgeon, whether general or special, and to the younger members of the profession, and to those of limited experience, it will prove an invaluable help and guide. We confidently bespeak for it a prominent place in the working library of our busy men.

INTERNATIONAL CLINICS.

A quarterly of illustrated clinical lectures and especially prepared original articles, on Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to Students and Practitioners. Edited by A. O. J. Kelly A. M., M.D. Philadelphia U. S. Vol. II. Fourteenth series, 1904 Philadelphia: J. B. Lippincott Company; Montreal: Charles Roberts, Ontario St. Price \$2.25.

What we have said of previous numbers of this issue can be said of this one. The contributors are all of the very highest standing. The variety of subjects covered by the articles is of an interesting nature. Special attention is paid to diseases of warm climates. There are a number of articles on Surgery, Medicine, Pediatrics and Rhinology. The volume is well illustrated. This is an excellent volume of an excellent series.

A TEXT-BOOK OF PATHOLOGY.

By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia. Handsome octavo volume of 818 pages, with 350 illustrations, a number in colours. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$5.00 net; Sheep or Half Morocco, \$6.00 net. Canadian Agents: J. A. Carveth & Co., 434 Yonge Street, Toronto, Ont.

It was with anticipations of much pleasure and interest that the reviewer began reading Dr. McFarland's work on Pathology, and he can truthfully say that his greatest expectations were more than fulfilled. The book is excellent—excellent as regards both text and illustrations. Of the latter there are a number of beautiful ones in colors, printed directly in the text. Dr. McFarland's thirteen years' experience as a teacher of this subject, besides his extensive personal research in the laboratory, has fitted him most admirably to write a text-book on pathology, and this superb forelying work is all that any one—student or practitioner—could desire. Unlike most works on pathology, the subject is treated, not from the professor's point of view, but from that

of the student, the many difficult theories of the science being explained in clear, concise language. Quite a few works on pathology have come to the reviewer's desk within the last few years, but none has reached the standard of excellence held by Dr. McFarland's work.

DISEASES OF THE NOSE AND THROAT.

By D. Braden Kyle, M. D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia; Consulting Laryngologist, Rhinologist and Otolologist, St. Agnes' Hospital. Third edition, thoroughly revised and enlarged. Octavo volume of 669 pages, with 175 illustrations, and 6 chromo lithographic plates. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

In presenting to the profession the third edition of this work the general plan of the previous editions has not been materially altered. The entire book has been carefully revised and such additions have been made as were rendered necessary by recent medical progress. The most important alterations and additions have been made in the chapters on Keratosis, Epidemic Influenza, Gersuny's Paraffine Method for the correction of Nasal Deformities, and in the one on the x-rays in the treatment of Carcinoma. The etiology and treatment of Hay Fever have been partially rewritten and much enlarged, as has also the operative treatment of Deformities of the Nasal Septum. In the chapter devoted to general considerations of Mucous Membranes and Hay Fever the author records the results of his experience in the chemistry of the saliva and nasal secretions in relation to diagnosis and treatment. The literature has been carefully reviewed, and a number of new illustrations added, thus bringing the work absolutely down to date.

CORRESPONDENCE.

DR. ROSWELL PARK'S STATEMENT *RE* CANCER.

Editor CANADA LANCET.

In your issue of August, Dr. Roswell Park calls attention to my quotation from the *British Medical Journal*, Jan. 16th, 1904, on the subject of cancer, in a recent address to the Ottawa Medical Society, which reads as follows, "that there is not a practising physician in the United States, who has anything more than a rudimentary knowledge of the subject." The complete sentence is, "In regard to Protozoa in relation to cancer, there is not a practising physician in the United States who has anything more than a rudimentary knowledge of the subject." Trusting this correction will place matters in the proper light, and prove entirely satisfactory to the profession, in which Dr. Park justly occupies a distinguished position.

Ottawa, Aug. 12, 1904.

Yours, etc.,
J. A. GRANT.