

DOMINION
MEDICAL MONTHLY
AND ONTARIO MEDICAL JOURNAL

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VOLUME XXIII.

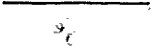
TORONTO:
GEORGE ELLIOTT, PUBLISHER
203 BEVERLY STREET
1904

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Dominion Medical Monthly

And Ontario Medical Journal

VOL. XXIII.

TORONTO, JULY, 1904.

No. 1.

Original Articles

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.

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

*Symposium on Life Assurance contributed to Ontario Medical Association, June 14th to 16th, 1904.

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 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 traits. 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 and 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 as 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 family 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. Mother's influence in transmission is more potent than father's, and in all cases after forty years of age the applicant may be considered as free from 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, and that not imparting the physical type to the child, he 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 second 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.—*Chcadle*.

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 the most susceptible.

Again, in this disease we see the great influence, environ-

ment, 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 Reveston. 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 to 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, surroundings 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.

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

BY F. LeM. GRASSETT, M.B. (EDIN.), F.R.C.S.E., M.R.C.S. (ENG).

Medical Director Canada Life Assurance Co., Toronto.

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. Expectation 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 space allowed with the subject from an insurance standpoint.

In genito-urinary disease, as a cause 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 causes were 40,525. 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 are 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 this meeting. That they will speak most hopefully of successful surgical interference I feel sure; that any such success tends to lower the 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 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 affections, 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 men 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 a too stringent and severe 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.

Record, 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 paralyses, 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, are 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 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 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 first year..... | 106 cases. |
| " 2nd year.... | 227 " |
| " 3rd year..... | 256 " |
| " 4th year..... | 229 " |
| " 5th year..... | 205 " |
| " 6th year..... | 201 " |
| Total in six years | 1224 |
| From 6th to 10th year | 499 |
| " 10th to 20th " | 543 |
| Above the 20th " | 129 |
| Total..... | 2395 |

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 incidence of syphilis in other diseases and constitutional states. While it is strongly held by some that the prospect of a patient with acquired syphilis be 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 Actuarial 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 was those cases showing a history of syphilis. Here we have the largest and most recent available mortality statistics of persons showing 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 durations 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 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 provide 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 CARDIO-VASCULAR SYSTEM.

BY ROBERT J. DWYER, M.B. (TOR.), M.R.C.P. (LOND.).

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, or latent signs being few, and 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 sought. 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 men-

tioned, 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.

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 dyspnea, 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.
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 pneumonic 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 was found to be increased upwards and to the left, along the third rib, and the pulmonic second sound was found to be accentuated; 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, and 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 hemic 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 probability is there of it 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 dyspnea, 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 anemia 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, occur-

ring, 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 dyspnea, 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 years previously to the time I saw him. In both attacks had suffered "pain in the heart." At the time I first 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 out 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 impulse 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 impulse, 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 of mitral disease, and in whom there have been, as yet, no evidence of cardiac embarrassment.

EXPECTANCY OF LIFE IN MORBID CONDITIONS OF THE RESPIRATORY SYSTEM.

BY EDWIN RYAN, M.D., KINGSTON, ONT.

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 aspect of the life in question. There can be no denying the fact that hereditary 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.

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 those 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—influences to 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 tubercle 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 46,325 cases given to tuberculosis, 5,585 deaths, a percentage of 24.27 under forty-five; 10.88 between forty-five and sixty, and 40.3 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 "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 occupations afford 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, naso-pharyngeal, merits the closest inspection.

Coming now to the specific diseases, let us consider each in ques-

tion. 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 tubercle, 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 affected with 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 hemoptysis 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., TORONTO,
Medical Director, Canada Life Assurance Co.

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 certain questions in the earlier medical forms 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.

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.

There are 221 cases in all, and they represent 17 per cent. of deaths from all causes. Of these, as is to be expected, the apo-

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

plexies contribute 10 per cent.; cerebral softenings, 3 per cent.; general paralyzes, 1 per cent.; meningitis, 1 per cent.; and of the other brain and cord affections, each less than 1 per cent.

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 or 31 per cent. of the general paralyzes occurred in the age 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 classified under the nervous system, are, of course, primarily due to disease of the brain vessels; and the general paralyzes, 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 disease

*This has been recently extended.

of the heart 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 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 also 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 latter 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 diseases 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 neurosis 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. Where 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 assurance company is confronted when he endeavors to estimate the risk on such expressions as "no habit," "drinks when he feels like it," "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 assurance 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 the sensory or the motor branches of the arc.

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.

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 close, 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 temulous, further examination as to the cause is desirable.

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 arterio-sclerosis, 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 should be very closely questioned in order to determine its probable cause. 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.

LIFE INSURANCE.*

BY JAMES THORBURN, M.D.,

Medical Director North American Life Insurance Co. Toronto, Canada.

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

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

conditions. The new Mortality Experience Table, which has been handed down to us by the Institute of Actuaries of Great Britain, and 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, one of the objects of which is 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 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 desired.

I think I can say, without fear of contradiction, that life assurance companies, as a whole, contribute more to the incomes of the medical practitioner 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 effectually 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 a 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 often incompetent to form an opinion.

MEDICAL EXAMINERS.

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 condition; 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 be possibly 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 a 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 applicants, 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 of 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 aggregated \$2,000,000; 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, and 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.

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 Manufacturers' 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.

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, until, 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 one 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 small 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 age 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 was 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 $2\frac{1}{2}$ 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 the 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 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-eight special classes of risks, which was compiled by the Actuarial Society of America. A mortality table, which was thought to fairly represent the mortality of standard lives in America, was chosen as a basis of comparison for the results of each of the classes. The ages at 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 thirtieth 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 at 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 persons 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 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 have heretofore been accepted for life insurance, have been 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 almost 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 showing a history of syphilis show an almost equally bad record.

Contrary to expectation, those who have had otorrhea 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 unsat-

isfactory 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.

In cases of light weights, 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.

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.

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, fully, honestly, and to the best of his ability. While one examiner may be more able 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 Insurance 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 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.

DISCUSSION ON SERIES OF LIFE INSURANCE.

DR. J. L. DAVISON (Toronto, Imperial Life).—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 radial, is of great importance; often of more importance than the existence of a heart murmur.

DR. MACHELL (Toronto, Crown Life) 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. FERGUSON (Toronto, Excelsior Life) held in regard to syphilis that Sir William Gowers 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 descendants of long-lived parents are not necessarily good risks.

Alcoholism is an evidence of neurosis, 50 to 80 per cent. of neurotics having alcoholic tendencies. 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. The following points are important: (a) Family history; (b) personal condition; (c) past history; (d) collateral influence of occupation, habits, etc.

DR. HAY (Toronto, People's Life) 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 shown through; moreover, that a man operated on for appendicitis with a good, clean, well-healed scar should be accepted without difficulty.

DR. FREEL (Stouffville).—We have heard much good advice from the medical directors, but I would like to speak a word in behalf of the unfortunate examiners. (Applause.) The difficulty of getting correct answers cannot be over-estimated, especially is it 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 that question.

DR. HUNTER (Parkdale) considered that the pay was much too small for the trouble to which the examining physician was oftentimes put. Recently he had made three attempts to examine an applicant, and on the occasion of his third visit the man informed him that "he hadn't time to be examined then, as his wife had some friends in to a card party."

DR. BRYANS (Toronto) wanted to know if it was true that some physicians in Toronto were examining applicants for life insurance at 25 cents apiece.

DR. SCADDING (Toronto).—It was true that the doctor was

not sufficiently paid in some cases, but the applicant paid the doctor's fees, and in many cases these were poor patients, who could not afford to pay more. Moreover, the fees were cash, with no difficulty in collecting accounts.

MR. PAPPS.—If the doctors are not sufficiently paid, it is largely their own fault. There are physicians who are willing to accept the present fee, and as long as the company could get the services of such men, they could not be expected to pay more.

Reports of Societies

WESTWARD HO!

CANADIAN MEDICAL ASSOCIATION, VANCOUVER MEETING, 1904—AUGUST
23, 24, 25 AND 26.

SIMON J. TUNSTALL, M.D., PRESIDENT.

VANCOUVER AND VICTORIA

The thirty-seventh annual meeting of the Canadian Medical Association is to be held this year in Vancouver on the above dates. Victoria joins hands with her sister city in extending the hospitality of the Pacific Province to all the members of our great National Medical Organization. In the thirty-seven years of its history this is the first time a meeting of the Canadian Medical Association has been held in British Columbia; and the opportunity to visit Victoria, an outpost of Empire, and Vancouver, the pride and glory of the West, should not be lightly passed by. Indeed, the entire West is a "panorama of beauty" and a "scene of bustle."

HOW TO GET THERE AND HOW TO GET HOME AGAIN.

There will be no special train. No arrangements are in force to return *via* California, Salt Lake City and Colorado, as none could be secured, so far as the Canadian Medical Association is concerned, but below will be found information which will cover that route in returning, same being an open rate not requiring any special certificate for purchasing transportation. Under the arrangements made tickets will be good going *via* Canadian Pacific Railway direct, *via* Port Arthur, *via* Sault Ste. Marie, St. Paul,

thence Soo-Pacific Route, Great Northern or Northern Pacific, or Grand Trunk *via* Detroit or Port Huron to Chicago, St. Paul, thence Soo-Pacific Route, Great Northern or Northern Pacific, returning same route or any of the above routes. Lake route, Owen Sound to Port Arthur, may be taken one or both ways on payment of \$4.25 additional each way. Boats leave Owen Sound, Tuesdays, Thursdays and Saturdays.

It is also proposed to allow variation to St. Louis *via* St. Paul and Chicago on return trip when tickets are routed on return trip *via* those points, on payment of \$10.00 additional. Secure return tickets if return is to be made other than Canadian Pacific Railway *via* the Northern Pacific to St. Paul; Chicago and Northwestern, from St. Paul to Chicago; Wabash, Chicago to St. Louis or Chicago to Detroit, either Wabash or Grand Trunk; Illinois Central, Chicago to St. Louis and return. Through sleeping car accommodations from St. Louis *via* Chicago to all points in Canada on Grand Trunk Railway; or from St. Louis *via* Wabash to Detroit direct, or to Chicago and thence to Detroit.

MARITIME PROVINCES.

The Intercolonial Railway joins in the arrangements in force for the Maritime Provinces and also in Quebec.

MANITOBA, NORTH-WEST TERRITORIES AND BRITISH COLUMBIA.

Transportation arrangements are as follows: To Vancouver and Victoria, from Port Arthur, Fort William, Rat Portage, \$50.00; from Winnipeg, Emerson, Gretna, Portage La Prairie, Brandon, Indian Head, Winnipeg to Boissevain, Winnipeg to Carrol, Brandon to Hartney and Weyburn to North Portal, \$45.00; Rapid City Junction, \$45.85; Gladstone, \$46.05; Neepawa and Minnedosa, \$46.85.

The above blankets pretty nearly all of the important points in Manitoba, but to make rates from points not shown above the one way first class rate to the nearest point shown is to be added, but not to exceed the rate from a point more distant on the direct line. From points in the Northwest Territories and British Columbia, Qu'Appelle and West round trip tickets to Vancouver and Victoria will be issued at single fare. Passengers ticketed at stations Medicine Hat and east, have the option of going *via* the Main Line, and returning Crow's Nest, or *vice versa*, as they may decide when purchasing their tickets. Tickets will be issued to either Vancouver or Victoria, where the same rate applies to either place; but if, as is the case from some far Western points,

the rates are higher to Victoria than to Vancouver, then tickets to Victoria will be issued only at the Victoria rate.

RATES.

Ontario—

| | |
|--|---------|
| Sault Ste. Marie, Sudbury, North Bay | \$62 40 |
| Orillia, Allandale, Beeton, Toronto Junction, Parkdale, Streetsville Junction, Cardwell Junction, Inglewood, Brampton, Brantford, Caledonia, Jarvis, Simcoe, Tilsonburg, Guelph, Galt, Georgetown, Hamilton, Milton, Drumbo, Berlin, Stratford, Woodstock, Beachville, Ingersoll, St. Thomas, St. Mary's, London, Harrisburg, Sarnia, Chatham, Windsor | 62 40 |
| Toronto | 62 40 |
| Harriston and Mount Forest | 63 45 |
| Southampton | 65 05 |
| Warton | 65 35 |
| Wingham | 64 05 |
| Goderich | 63 75 |
| Orangeville | 62 85 |
| Owen Sound | 65 05 |
| Peterboro' and Port Hope | 64 40 |
| Tweed | 66 25 |
| Kingston | 67 70 |
| Carleton Junction | 68 00 |
| Brockville, Smith's Falls, Perth | 68 00 |
| Ottawa | 68 00 |
| Cornwall | 68 00 |
| Quebec— | |
| Rockland | 68 00 |
| Montreal, Montreal Junction, St. Martin Junction | 68 00 |
| St. John's | 68 00 |
| Huntingdon via Montreal | 68 00 |
| Quebec Levis, Point Levi | 71 00 |
| Sherbrooke, Lennoxville | 69 20 |
| New Brunswick— | |
| McAdam Junction | 76 50 |
| St. John and Moncton | 76 50 |
| St. Andrew's and St. Stephen | 76 50 |
| Woodstock | 77 00 |
| Edmundston | 78 70 |
| Fredericton, Doaktown, Boiestown and Blackville, via Fredericton | 77 20 |

Nova Scotia—

| | |
|--|-------|
| Digby and Yarmouth, via St. John | 77 50 |
| Halifax, via D. A. Ry. | 79 50 |
| Halifax, via I. C. Ry. | 81 00 |
| Oxford Junction | 78 95 |
| Truro | 80 00 |
| New Glasgow, via Truro | 80 75 |
| Pictou, via Oxford Junction | 80 45 |
| Antigonish | 81 45 |
| Mulgrave | 82 10 |
| North Sydney | 83 55 |
| Sydney | 83 70 |

FARE EAST OF FORT WILLIAM.

From points not mentioned add \$50.00 to first-class one way fare to Chicago.

DATES OF SALE OF TICKETS.

From all points in Ontario and Quebec tickets will be on sale from the 15th to the 21st of August, inclusive, and from points east of Vanceboro', Me., August 14th to the 20th. The final return limit is October the 23rd, which means that all must be home on that date.

ENTERTAINMENT AT CALGARY ON WAY OUT.

The Calgary Medical Association is desirous of extending an entertainment during the course of one day on the way out to Vancouver. This entertainment will be a typical western one, and will take the form of an Indian gathering in costume, Indian races and games, roping and cowboy feats. Those who would like to stop over at Calgary for this entertainment so kindly offered through the Calgary Medical Association, should notify the General Secretary without any delay, so that if there would be sufficient number, same could be forwarded in time for proper preparation of the entertainment.

THE SOCIAL SIDE AT VANCOUVER AND VICTORIA.

In Vancouver arrangements have been made for various excursions, yachting trips, steamer, rail and tram to surrounding points of interest; receptions, private and public; a dinner or a ball. On one of the days of the meeting the delegates will be taken by tram to New Westminster, visit the asylum there and other

points of interest, then take the boat down the mighty Fraser to Steveston, visit some of the canneries, so that visitors will have the opportunity of verifying the stories of the salmon industry; then take the train back to Vancouver—a trip of great interest from start to finish.

In Victoria a committee is arranging a series of entertainments there, viz., reception at Government House, conversation at the Parliament Buildings, a visit to Esquimalt and William Head Quarantine Station, beside other excursions to points of interest in and about Victoria.

HOTEL ACCOMMODATION.

| | |
|---------------------------|---------------------|
| Vancouver Hotel | \$3 to \$5 per day. |
| Badminton | 2 " 3 " |
| Leland | 2 " 3 " |
| Commercial | 2 " 3 " |
| Metropole | 2 " 4 " |
| Dominion | 1 " 2 " |

Board and rooms can also be arranged for at private houses, a complete list of which can be obtained from the local secretary.

PULLMANS AND DINING.

The Pullman rate from Toronto to Vancouver is \$17.00 each way. Meals for five days about \$12.50.

YELLOWSTONE PARK.

Yellowstone National Park is situated mostly in the State of Wyoming, in its north-western corner. Those contemplating visiting this "Wonderland" after the meeting in Vancouver, should see that their tickets are routed on return journey *via* the Northern Pacific Railway. From Vancouver the return trip is made over the C.P.R. to the boundary where the Northern Pacific is taken at Sumas. Thence through Auburn and Spokane to Livingston, where change is made for Gardiner, at the entrance to the Park. A six days' trip by stage-coach through the Park, including meals and lodging at the hotels, which are all first-class, will cost \$49.50. The Park is sixty-two miles from north to south and fifty-four miles wide. The General Secretary will be glad to hear from all those intending to take in this trip on return journey, having been assured that a party of from twenty-five to fifty will receive better attention than smaller ones.

RETURN THROUGH CALIFORNIA, SALT LAKE CITY AND
COLORADO.

As announced above, the Canadian Medical Association has no arrangements in force for return *via* California. For the benefit of those, however, who wish to return that way to St. Louis, the information may be tendered that there will be in force at the same time as our own convention an open rate of \$70.25 from Toronto to San Francisco, good going *via* Canadian Pacific Railway to Vancouver, allowing liberal stop-overs in each direction; final return limit 23rd of October. No certificates are required for this trip, as it is an open rate to all. In taking this trip, members of the Canadian Medical Association going to Vancouver should be routed on return *via* Southern Pacific, Portland to San Francisco or Los Angeles; Southern Pacific, San Francisco or Los Angeles to Ogden; Union Pacific to Kansas City and St. Louis. Mr. H. F. Carter, T.P.A., Union Pacific Railway, 14 Janes Building, Toronto, will supply any further information regarding this route.

MEMBERSHIP.

The fee for membership is \$2.00 and may be paid to the Treasurer, Dr. H. Beaumont Small, Ottawa, when registering at the meeting. For the information of those who have not been elected to membership, the same rates apply to them as well, and they are instructed to ask for application forms when registering.

SPECIAL CERTIFICATES.

All delegates must have for themselves, their wives and daughters, if going, a special certificate from the General Secretary, in order to secure reduced transportation rates.

FURTHER INFORMATION.

Should anyone require any further information as to accommodation at Vancouver or Victoria, side trips, hunting, etc., they will kindly address the local secretary, Dr. W. D. Brydone Jack, Vancouver, B.C. For certificates and general information address the General Secretary.

PROVISIONAL LIST OF PAPERS.

President's Address, Simon J. Tunstall, Vancouver.
Address in Surgery, Mr. Mayo Robson, England.
Address in Medicine, Dr. ———.
Address in Gynecology, Dr. E. C. Dudley, Chicago.
Paper, title to be announced, Dr. A. McPhedran, Toronto.

Paper, title to be announced, Dr. J. H. Elliott, Gravenhurst, Ontario.

"Surgical Treatment of Trachoma," Dr. G. Stirling Ryerson, Toronto.

Paper, title to be announced, Dr. A. Armstrong, Arnprior, Ontario.

Paper, title to be announced, Dr. A. E. Garrow, Montreal.

"The Operative Treatment of Spina Bifida," Dr. E. R. Secord, Brantford, Ont.

"The Business Aspect of the Medical Profession," Dr. James E. Hanna, Ottawa, Ont.

Paper, title to be announced, Dr. D. J. Gibb Wishart, Toronto

Paper, title to be announced, Dr. J. W. Stirling, Montreal.

Paper, title to be announced, Dr. B. E. McKenzie, Toronto.

"Hernia of Bladder Complicating Inguinal Hernia," Dr. Francis J. Shepherd, Montreal.

"Gastric Ulcer and its Treatment, Dr. J. B. McConnell, Montreal.

"La Syphilis Canadienne et Différents Facteurs et Gravité," Dr. D. E. LeCavelier, Montreal.

"Case Reports, Dr. Robert H. Craig, Montreal.

Paper, title to be announced, Dr. James S. Edwards, Grand Rapids, Michigan.

Paper, title to be announced, Dr. Henry Howitt, Guelph, Ont.

"Chronic Cystitis," Dr. J. O. Camirand, Sherbrooke, Que.

"Iniencephaly, with a Report of Three Cases," Dr. Maud E. Abbott, and Dr. F. A. L. Lockhart, Montreal.

"Actinomyces," Dr. James Bell, Montreal.

Paper, title to be announced, Dr. Ingersoll Olmsted, Hamilton, Ontario.

"Prostatectomy Under Local Anesthesia," Dr. H. H. Sinclair, Walkerton, Ont.

"High Frequency Currents in Functional Disease, more particularly Functional Neuroses," Dr. S. F. Wilson, Montreal.

"Therapeutic Hints from Bacteriology," Dr. G. R. Cruickshank, Windsor, Ont.

Paper, title to be announced, Dr. C. H. Mayo, Rochester, Minnesota.

In addition there will be a number of papers from Western men, whose names have not yet been received.

Any further particulars required will be gladly furnished by the General Secretary,

Dominion Medical Monthly

And Ontario Medical Journal

EDITORS:

GRAHAM CHAMBERS, B.A., M.B. WALTER McKEOWN, B.A., M.D.

ASSOCIATE EDITOR:

T. B. RICHARDSON, M.D.

MANAGING EDITOR:

GEORGE ELLIOTT, M.D.

Published on the 15th of each month. Address all Communications and make all Cheques, Post Office Orders and Postal Notes payable to the Publisher, GEORGE ELLIOTT, 129 John Street, Toronto, Canada.

VOL. XXIII.

TORONTO, JULY, 1904.

No. 1.

THE SUGGESTIONS OF PRESIDENTS.

Another president of a medical association in Canada has delivered himself of valuable suggestions, and another convention of medical men listened, applauded, tendered thanks, and, as usual, took no action thereon. This is scant courtesy, after electing a man to this distinct honor. No one seems to find it incumbent on him to follow up the many very valuable suggestions emanating annually from presidential addresses. Dr. Ross, in his annual presidential address before the Ontario Medical Association this year, touched upon many important items. He even asked for a special committee to investigate many matters, such as registration of births and deaths, the reporting of infectious diseases, working for the individual without compensation, and, what is infinitely far worse, working for the community or state for nothing. There is altogether too much officious charity in the medical profession—a calling which could be enhanced by a little more engrafting of business principles. But there was no special committee, and all these matters stand over for another year. The medical faculty may well depend upon it that if they do not stand well together for their own good, not much will be accomplished. We have only to look to Germany at the present day to see how an united pro-

profession can successfully resist exploiting societies. Let us take our cue from the "Fatherland," renowned the world over for its steady, progressive and solid advance in medical science. If Germany can successfully conduct a campaign against lodge practice, surely Canadian practitioners have the energy and the manhood to uphold their own honor and integrity. We are laughed at and have become a reproach and a by-word so far as "business" is concerned. Surely it is time to put up a vigorous and honorable fight for ourselves and our families. What have we to do with the pains and pangs of those who prowl around after the good-hearted doctor and beat him out of his fee? The poorest man very often does not need a doctor for months at a time, and most of the so-called medical charity is directed towards hum-bugs and dead-beats. Every representative to our medical councils should feel it incumbent on him to organize the profession in his district into a business association, responsible to the provincial medical associations, and then let the maternal medical organization, the Canadian Medical Association, have jurisdiction over all. We need organization very badly, and very sadly. Let us all get busy.

DOES—"OUR MEDICAL PRESS REQUIRE(S) CONSIDERABLE REGENERATION"?

Coming from a man who has contributed many able articles to medical journal literature, that portion of the title of this editorial enclosed in quotation marks must cause those of us engaged in medical journalism serious thought and consideration. Had the words been uttered by a man who never has, never does, and never will, contribute anything to the medical literature of the day, the statement would not and need not have been noticed, because we deny the right to that individual to criticize. The medical man who never reports a case or some of his observations on any case of disease, who never sends to the medical press a prescription he has found useful, who never writes a paper, who never records an idea or a discovery, who never writes his opinion on any topic of medical politics, is scarcely competent to pass remarks upon the value of present-day journals. But these words come from a source, the utterance being from Dr. Ross, before the Ontario Medical Association, which commands thought.

We do not presume for one moment that Dr. Ross referred to Canadian medical journals exclusively, but that all came under his charge, big or little, weekly or monthly. Whilst we do not consider that our own particular medical press in Canada is by any means perfect, we do contend that in recent years our medical press has made good progress, no doubt due to new, young blood which has been introduced; and we fully believe that there is an earnest desire on the part of those engaged therein to do the very best possible for Canadian medical journalism and for the Canadian medical profession. In Canada there are yet two departments in medical journalism which are sadly neglected. *You cannot have good medical journals unless the practitioner helps to make them such.* How many are helping? The two departments which need building up are the especial field of the general practitioner—clinical reports and correspondence. We would like to see more reports of cases and more letters written to the editors upon such topics as from time to time come before the profession. The advice, however, is good; and we trust our readers and the readers of our contemporaries will bear it in mind, remembering that they have their part to play in the process of “regeneration.”

PUBLISH ALL FORMULÆ.

The many attacks made by the DOMINION MEDICAL MONTHLY and other medical journals throughout the land upon the all too numerous secret remedies upon the market, spoken of as cure-alls for every known disease under the sun, are bearing fruit. This is seen in the very laudable action of the Ontario Medical Council in their proposal to memorialize the Federal Government to order the formulæ of all patent medicine remedies printed on all labels on the bottles thereof. It is an undertaking that, having once put their hand to, there must be no turning aside or back. Of course, it will be shouted from the house-tops that the doctors are interested, selfishly so; but firm, aggressive insistence in the interests of the health of the community must prevail. There are not wanting signs that the whole and entire patent medicine fabric is tottering to its fall. Self-respecting newspaper managers cannot much longer cater to this class of advertising, and the first, we under-

stand, to step out and refuse some of it at least is the *Montreal Witness*, which has always been a consistent advocate in the cause of temperance. It has recently refused to advertise an article said to have large quantities of alcohol in its make-up. With the powerful influence of temperance people denouncing alcoholism by the patent medicine route, many of these baneful preparations will vanish from the market.

NEWS ITEMS

DR. GEO. A. PETERS left Toronto on the 12th of July for England.

CANADIAN MEDICAL ASSOCIATION.—Remember the dates: August 23rd, 24th, 25th and 26th.

DR. J. T. FOTHERINGHAM has returned to Toronto from England very much improved in health.

DR. INGERSOLL OLMPSTED, Hamilton, announces that hereafter he will confine himself to surgery and consultations.

DR. N. P. GRANT, of Woodstock, N.B., has been appointed Superintendent of the St. John General Hospital.

THE deaths in Ontario during the month of May were 2,283, the rate of mortality being 13.7 per cent. per 1,000.

HEALTH inspection of Quebec schools is being advocated by Dr. C. S. Valin, Professor of Hygiene in Laval University.

DR. R. J. MANION, gold medallist at Trinity University, '04, has been appointed to the house staff of the General Hospital, Ottawa.

OVER one hundred infants died in Montreal during the week ending the 2nd of July. The total death rate during that week was 186.

THE Hon. Senator Sullivan, of Kingston, has been elected President of the Ontario Medical Council, and Dr. A. A. Macdonald, of Toronto, Vice-President.

THE Provincial Royal Jubilee Hospital of Victoria, B.C., has just completed the Strathcona wing at a cost of over \$12,000, of which amount Lord Strathcona contributed \$5,000.

BATTLE & Co., St. Louis, Mo., have just issued the second of the series of twelve illustrations of the Intestinal Parasites, and will send them free to physicians on application.

DR. J. V. ANGLIN, of Montreal, has been appointed Superintendent of the Provincial Hospital for the Insane of New Brunswick, a position which was resigned by Dr. Geo. Hetherington some time ago.

SANITARIUM AT KAMLOOPS.—Dr. A. P. Proctor, of Kamloops, B.C., announces that a Sanitarium for Consumptives is to be erected at that point, and that the Canadian Pacific Railway has contributed \$5,000 for the purpose.

THE College of Physicians and Surgeons of Quebec held its annual meeting in Montreal during the week ending July 9th. Licenses were granted to fifty members of the profession who had not so far observed the necessary formalities.

PROFESSOR WILLIAM OSLER and Dr. Thomas G. Roddick, M.P., are to have conferred upon them by Oxford University the degree of Doctor of Laws during the course of the annual meeting of the British Medical Association in July at Oxford.

DR. TAIT MCKENZIE, of Montreal who is at present in Paris, head of the practical Anatomical Department at McGill University, has received an offer from the University of Pennsylvania to become Medical Superintendent of the College Gymnasium, and it is thought that Dr. McKenzie will accept.

CANADIAN MEDICAL ASSOCIATION.—We direct the attention of our readers to the announcement in other columns of the Thirty-Seventh Annual Meeting of the Canadian Medical Association at Vancouver. Nearly two hundred are going out. Why not be in the number?

PHYSICIANS desiring to sell their practice with the least publicity possible so as to safeguard their interests will find the Canadian Medical Exchange a medium for so doing that is unsurpassed. Dr. Hamill, who conducts this important department

of medical affairs, has rendered the profession signal service, and is undoubtedly well adapted in this line of business, and we cordially recommend our readers to secure his advice when they are thinking of selling. See his list of practices among our advertising pages.

THE French-speaking physicians of North America held their second annual conference in Montreal during the week ending the 2nd of July. Dr. Pozzi was present, representing the Medical Faculty of Paris, and during the progress of the conference this distinguished French surgeon performed operations in the Notre Dame and Royal Victoria Hospitals.

THE ONTARIO MEDICAL COUNCIL.—The annual meeting of the Ontario Medical Council was held in Toronto during the week ending July 2nd. The Board of Examiners appointed for the coming year was as follows: Descriptive Anatomy, D. McKay, of Oshawa; Theory and Practice of Medicine, Dr. Ryan, of Kingston; Midwifery, etc., Dr. McCabe, Strathroy; Physiology and Histology, Dr. A. Primrose, Toronto; Surgery and Operative, Dr. W. T. Parkes; Medical, etc., Dr. Middlebrough; Chemistry, etc., Dr. A. R. Pyne; Materia Medica, Dr. J. A. Sprague; Medical Jurisprudence, Dr. A. J. Sinclair; Assistant Examiner Surgery and Diseases of Women, Dr. R. Ferguson, London; Assistant Examiner, Clinical Surgery, Dr. O'Rielly, Toronto; 1st Assistant Medicine, Diseases of Children, Dr. A. Harg, Kingston; 2nd Assistant Examiner in Medicine, Dr. G. H. Field, Cobourg; Homœopathic Examiner, Dr. W. McFarlane, Peterboro.