The medical examination for life assurance : with remarks on the selection of an office / by F. de Havilland Hall.

THE MEDICAL EXAMINATION FOR LIFE ASSURANCE

F. DE HAVILLAND HALL,
M.D., F.R.C.P.

THIRD EDITION

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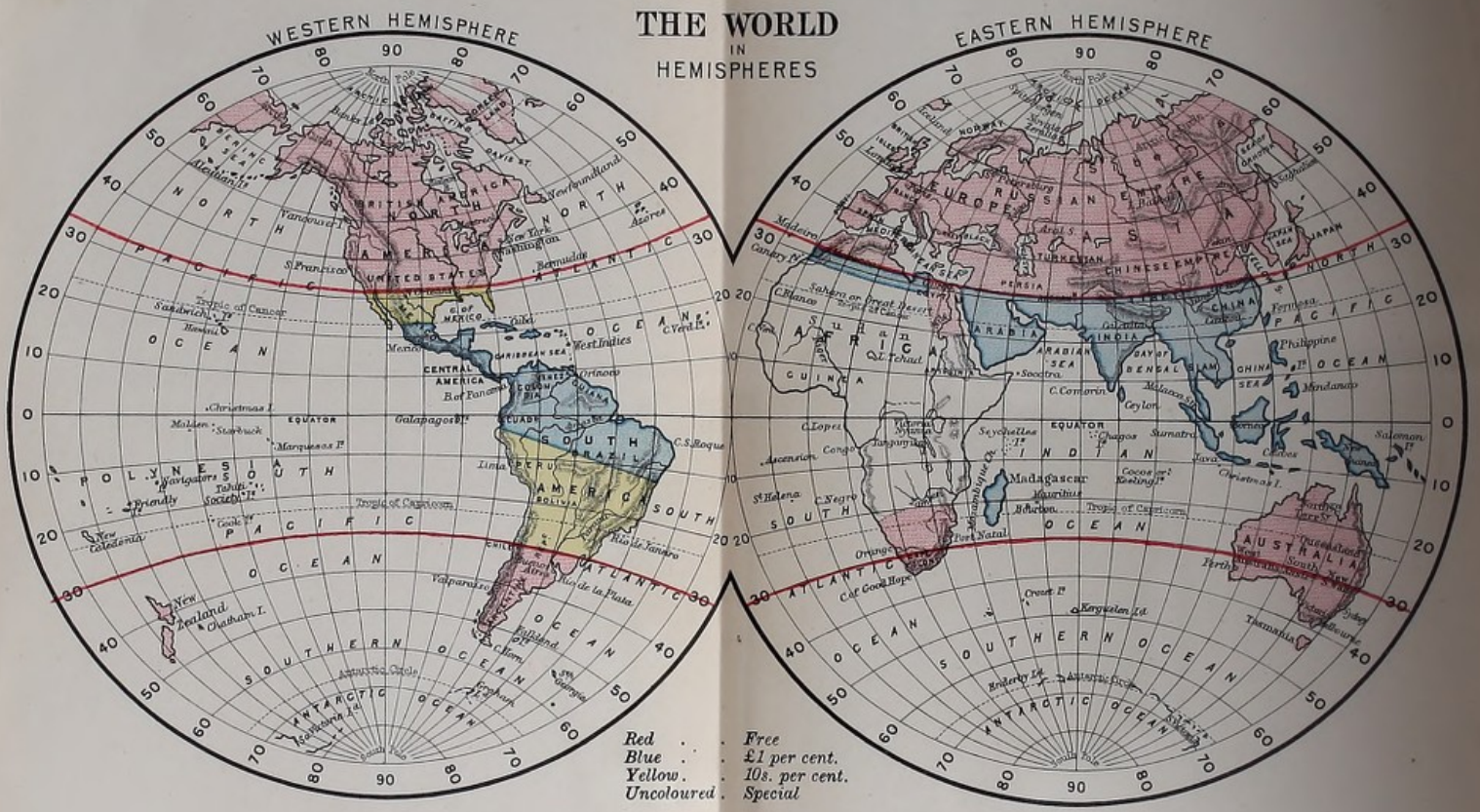

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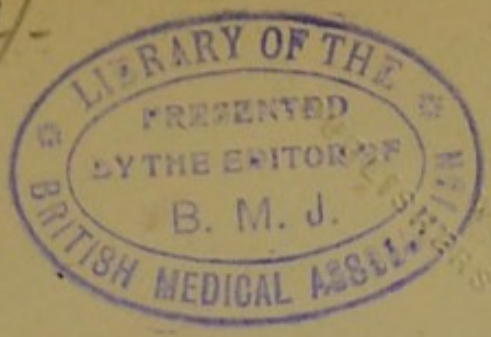

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FOR

LIFE ASSURANCE:

WITH

Remarks on the Selection of an Office.

BY

F. DE HAVILLAND HALL, M.D., F.R.C.P.,

President of the Medical Society of London; Physician to the Westminster Hospital; Physician to the Rock Life Assurance Company.

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PREFACE.

ENCOURAGED by the favourable reception of my small work on "The Medical Examination for Life Assurance," I have ventured to make considerable additions in this edition, and I trust that those who are interested in Life Assurance will find the work of use to them.

F. DE HAVILLAND HALL.

WIMPOLE STREET, W.
October, 1903.

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The Medical Examination for Life Assurance.

PRELIMINARY REMARKS.

THE medical examiner should remember that he is acting in a two-fold capacity. On the one hand he has been appointed by the Assurance Office to protect its interests and to see that unsuitable applicants are not allowed to pass; and on the other hand it is equally his duty not to imperil the applicant's future prospects by hastily coming to the conclusion that he is not an assurable life. Much trouble is given at the Head Office by the examiners omitting to fill up all the blanks; this is especially the case as regards the ages at death of brothers and sisters. It stands to reason that if a man of thirty applies for life assurance and states that he has lost three brothers, it is very important to know whether they died in early life, or between thirty and fifty. In the former case the applicant may be regarded as the survival of the fittest; in the latter the possibility of his following the example of his elder brothers must be considered.

The examiner should insist on his examination being made in private, except in the case of an unmarried woman, and then the mother or other female relative or friend may be permitted to be present. If possible, the examination should be carried out in the medical examiner's consulting room, and not at the office or residence of the applicant. The examination should be made in the day-time, as an icteric tinge of the conjunctivæ could not be detected by artificial light.

The examiner should see that the urine for examination is passed in his presence, and when, as must generally be the case with women, the specimen is brought or sent, this fact should be notified in the medical report.

In stating the height and weight of the applicant, if the examiner does not ascertain these particulars for himself, he should mention that the information was supplied by the applicant, or that he gave it approximately.

No medical examiner is worthy of his salt who does not have the applicant stripped to his waist ; unless this is done the examination must necessarily be defective. The inability to carry out a sufficiently stringent examination for females, is probably an important reason why female assurance lives do not maintain the advantage the ordinary female has over the male as regards the prospects of longevity.

At the conclusion of the examination the medical examiner should remember that his report is a confidential one to the Directors of the Company by whom he is employed, and that he is not at liberty to divulge it to the applicant or others, nor is it permissible for him to tell the applicant that he is recommended for acceptance or rejection as the case may be. This decision is for the Directors, and there are many reasons which may induce them to form an entirely different opinion from that of their medical examiner.

In the selection of lives for Life Assurance, the individual must be regarded from four principal points of view :—

I.—FAMILY HISTORY.

II.—PERSONAL HISTORY.

III.—PRESENT CONDITION.

IV.—ENVIRONMENT ; *i.e., Social State, Place of Residence, Habits and Mode of Life.*

The various questions bearing on life assurance will therefore be discussed in the above-mentioned order.

On pages 98-101 will be found the Form for Medical Examination as drawn up and recommended for use by the Council of the Life Assurance Medical Officers' Association. On pages 102-103 will be found a table devised by the late Dr. Leslie Ogilvie, for rapidly recording the salient features of assurance cases, so as to give due weight to each in the recommendation.

I.—FAMILY HISTORY.

It has been stated, "that it is the man himself who comes before us for examination—his habits, his health record, and his circumstances, very much more than his ancestors, and on whom our attention must be concentrated." This is all very true, but at the same time much valuable information can be derived from the family history, provided it is properly handled. The tendency now-a-days in assurance practice is to restrict inquiry as regards hereditary diseases to *Consumption*, *Cancer*, *Diabetes*, *Gout*, *Rheumatism*, and *Insanity*. In addition to these affections—their relation to life assurance we shall discuss later on—there are some other conditions of family history which are of service in estimating the value of any given life. The most important is an early "*breaking-down age*," *i.e.*, the history that the father, mother, brothers, sisters, or other near relations of the applicant have died at a comparatively early age, say fifty-five to sixty-five, from diseases indicating degenerative changes. This is just the class of case in which the extra risk is best met by an Endowment Policy, payable at an earlier period than the average "breaking-down age" in the family of the individual under consideration. In this connection Sir Hermann Weber's division of people into three classes should be borne in mind :

(*a*). In the majority of families the average duration prevails; the greater number of members who reach adult age die between sixty and seventy-two, unless some infectious diseases or other unfavourable circumstances produce earlier death.

(*b*). In a smaller proportion of families there is a tendency to very long lives, from seventy-five to ninety years and more. These lives survive the illnesses, accidents, and worries of life. Individuals belonging to this class may safely be recommended for assurance in spite of very considerable flaws in their personal history or medical examination.

(*c*). The short-lived families, almost all the members of which die before sixty, some from recognized diseases, others from ill-defined conditions coming under a head of a general break-down. Applicants belonging to this group must be regarded with the utmost caution.

Another point worthy of mention is the proclivity in certain families to catch infectious diseases. In the case of a medical student or nurse applying for assurance, the existence of such a tendency might justify an addition to the premium. Then there is a history of a general *want of robustness* in the family, as shown by the early deaths of many members of it from various diseases and independent of a tendency to any special disease. This variety of family history

is chiefly of importance in the case of applicants under thirty. In the event of an applicant over thirty coming with such a history, if he is in good condition, the probability would be that he is an example of the survival of the fittest, and that he is therefore a life to be accepted at the ordinary rate.

Caution must be exercised in recommending for assurance the child of alcoholic parents, if from his surroundings or his occupation he is exposed to temptation, or if there is any want of equilibrium in his nervous system.

When enquiring into the causes of death of parents or relatives of the applicant, it is of the utmost importance in doubtful cases to obtain full particulars as to the nature of the last illness. For instance, "death after child-birth" or from "asthma" may really be death from consumption.

Phthisis.—The examination of assurance statistics has shown that the additions made on account of a *phthisical family history* have been somewhat excessive. Inasmuch, however, as phthisis is particularly the disease which is the cause of loss to assurance companies in the first seven years of assurance, it behoves the examiner to give due weight to the history of a consumptive taint in the family. In this respect it is most important to bear in mind that the terms "death after child-birth," "asthma," and "pleurisy," often cover, or conceal, death from phthisis.

It is now so well recognized in assurance circles that death after child-birth is frequently the result of phthisis, that unless there is distinct evidence to the contrary, it is well to assume that such was the case. Death from asthma in persons under middle age is so uncommon, that some other explanation must be sought for the fatal termination, and in many instances phthisis will be found to be the cause. Pleurisy, again, is very commonly of tuberculous origin, and carefully collected statistics have shown that within five years after the occurrence of what was apparently a simple attack of pleurisy, nearly half the patients were dead of phthisis. This point is also of importance in regard to the history of the previous health of the applicant, inasmuch as the history of an attack of pleurisy in an individual, especially if coupled wi.h a family predisposition to phthisis, should raise the gravest suspicion in respect to the assurability of the applicant.

The discovery of the tubercle bacillus and the consequent infectious nature of pulmonary consumption, has necessitated a reconsideration of the whole question of the hereditary nature of consumption as compared with its origin by infection. Holding the view that what is transmitted by inheritance is only a tendency to the disease, and not the disease itself, the question of infection becomes of paramount importance ;

hence in this connection the death of a brother or sister is at least as important as the death of a parent, and after the death of a husband or wife from consumption, great caution should be exercised in accepting the survivor for assurance. The date, also, of the death of the consumptive relative becomes a matter of great moment, especially if the applicant for assurance lived in the same house with the deceased.

Some years must necessarily elapse before there are sufficient data to enable us to assign the due proportion of risk to inheritance and to infection respectively, as factors in the spread of tuberculosis, but the trend of opinion is distinctly in favour of taking from the former and adding to the latter.

In considering the bearing of heredity and phthisis, the classification suggested by Dr. Reginald Thompson is a convenient one from a life assurance point of view, and it is given in a somewhat modified form below. It must be remembered, however, that it is quite impossible to reduce to mathematical precision the exact influence that the varying degrees of family history of phthisis have on the expectation of life in the individual.

The different degrees of the heredity of phthisis may be divided into four classes :—

A.—Implication of one brother or sister, or one collateral relation.

B.—Implication of brother and sister; many collaterals with sexual limitation; the father's heredity alone.

C.—Implication of grandparents; the father with one other of the children; the implication of many brothers and sisters; the mother's heredity alone.

D.—Father with many members of the family; mother with other members of the family; grandparents and parents; double heredity.

In view of the great importance of *age* as a factor in the development of phthisis, it is necessary to divide the periods of life into four: First period before twenty-five years of age; Second period between twenty-five and thirty-five; Third period between thirty-five and forty-five; Fourth period after forty-five.

First period (*before twenty-five years of age*).—Reject all applicants with a distinct family history.

Second period (*between twenty-five and thirty-five*).—Class A may be taken at the ordinary rate if the applicant is robust, of good weight, and in comfortable circumstances. If there is any doubt, the application should be deferred until the age of thirty is attained.

Classes B and C should be taken with an addition of five and seven years respectively, with the stipulations mentioned under A.

Third period (*between thirty-five and forty-five*)—

Class A may be taken at the ordinary rate. Class B with three years' addition, and Class C with five years' addition.

Fourth period (*after forty-five*).—Classes A, B, and C may be taken at the ordinary rate. Class D still requires much caution in the selection of cases, and some offices refuse all cases of double heredity. In view of the great risk during the period of child-bearing, it is not advisable to accept female lives under the age of forty-eght.

Of more importance than the exact class of heredity to which the applicant is to be referred, is the personal examination. A weight above the average, a well-formed chest, and the appearance of robust health, are of more importance than pedantic adherence to any rules. If these points are favourable, as well as the personal history and mode of life of the applicant, it would probably be quite safe to accept all lives above forty years of age at the ordinary rate; below this period some addition would be necessary.

Too much stress in the past has been attached to the age of the applicant as a factor in deciding whether a family history of consumption should have weight. Statistics show that the death-rate per mille from consumption is fairly equal throughout life, and there is no limit, as regards age, to a person contracting the contagion of tuberculosis.

Cancer—comes next to consumption in regard to frequency of hereditary transmission, but, unlike the latter, it is an increasing risk, *i.e.*, the liability to cancer increases for the most part with the age of the individual. Up till quite recently cancer had received much less attention as a factor in the mortality of assured persons than it merited. A consideration of the following facts will show how important cancer is from a life assurance point of view.* In the last fifty years, though the total death-rate of the community has diminished, that from cancer has increased nearly fourfold. The increase has been most marked in males; and as cancer is a disease of advanced life, it occurs at a period of life after that at which assurance is usually effected. And, lastly, it has been shown that this increase has largely taken place in those of a good social position, *i.e.*, the persons who are most likely to assure.

It has been suggested that the increased mortality from cancer is fictitious, and is simply due to an increased skill in diagnosis. Though this may account for some of the increase, it will not account for the whole of it. It has also been suggested that owing to the diminished death-rate of the earlier periods of life, more survive to arrive at the period at which cancer usually occurs. The whole question

* "The Relations of Cancer to Life Assurance," by William Thorburn, F.R.C.S.

of cancer in relation to life assurance has been very ably handled by Dr. Claud Muirhead in his report on "The Causes of Death among the Assured in the Scottish Widows' Fund" from 1874 to 1894 inclusive. His statistics show that, even allowing for greater accuracy in diagnosis, there remains a large real increase to account for the large and progressive mortality from this disease. He also points out that the average age at death from cancer declined by two years from 1874-80 to 1888-94, as contrasted with a rise in the average age at death from all causes of a little over two years. Females are more liable to cancer than males; but the increase in the cancer death-rate to which I have already referred has affected the male sex to a much greater extent than the female, so that the tendency is for the death-rate of the two sexes to approximate. For the present, however, females must be considered to run greater risk of dying from cancer than males, hence great care must be exercised in accepting female lives over the age of forty, if there be a cancerous family history. Attempts have been made to impugn the heredity of cancer, but for the present the assurance medical officer will do well to accept it as proved. In the case of male lives one death from cancer in the family need not be regarded; two deaths require an addition to the premium; if both parents have died of

cancer the application should possibly be rejected. In the case of female lives one death from cancer is suspicious, and if of a parent, especially the mother, an addition should be made. The death of mother and one other near relation would suggest a large addition, or even rejection. The question of the infectious nature of cancer is still *sub judice*, so that from a life assurance point of view it may be disregarded.

In view of the fact that cancer is for the most part a disease of middle and advanced life, the older the applicant who has a cancerous history, the greater the need for an addition or rejection as the case may be, *i.e.*, an applicant under forty might be taken at the ordinary rate or with a moderate addition, whereas an applicant over fifty with a similar history would require a large addition or possible rejection.

Applicants with a cancerous family history are especially suitable for an endowment assurance payable at fifty or fifty-five, or for an investment policy with a limited number of payments.

One point comes out very forcibly in examining the family history of cancerous patients, viz., the marked association of cancer with a family history of phthisis. Great care should therefore be taken in reporting an application in which there is a history both of cancer and phthisis. As regards the occurrence of what are called pre-cancerous conditions, it is not at present

possible to assign any definite value to them; still, the presence of chronic inflammation in the tongue or larynx, or chronic dyspepsia in males of advancing life, chronic eczema of the nipple in females, and long-standing ulcers due to any cause, should lead to great caution in recommending the life for acceptance, especially if there be any cancerous family history. Unlike what occurs in consumption, where the poorly-developed, narrow-chested, under-weighted applicant with a family history of tuberculosis or a personal history of pleurisy would stand no chance of being accepted, there are no danger signals, except those just mentioned, to act as a warning in the case of cancer; indeed, the disease seems to attack those who have been strong and healthy rather than delicate.

Diabetes.—The hereditary nature of this disease is well recognized, hence it would be safer to reject an applicant under the age of thirty who has lost one parent and a brother or sister of diabetes; between thirty and forty such a life might be taken with a large addition, say seven to ten years; over the age of forty an addition of four or five years would probably suffice. These rules should be made more stringent in the case of Jews. Of course it is pre-supposed that we are dealing with true diabetes, and not the glycosuria of gouty origin.

Gout.—That gout is hereditary hardly anyone

will deny, and its transmission may sometimes be traced through several generations ; or it may skip one generation and appear in the next The gouty inheritance, instead of giving rise to any acute symptoms, may manifest itself in a more or less latent form, as dyspepsia, skin affections, and a tendency to degenerative changes in the heart, vessels, and kidneys. The signs of inherited gout are commonly detected before the age of thirty-five ; whereas in acquired gout the first attack is usually later. If one parent or grandparent has had gout, the applicant may be taken at the ordinary rate, if he himself has not suffered and is otherwise eligible. If two members of the family have suffered from gout, an addition of from three to five years should be made. Where there is a gouty inheritance, especial care must be taken if there is any suspicion of defective action of the liver or kidneys, if the vessels are rigid, or if the applicant is excessively heavy. The risk involved in accepting individuals with hereditary history of gout is illustrated by the statistics published by the Mutual Life Insurance Company, of New York : "Up to the end of 1887, when over 300,000 policies had been issued by the Company, only fifty-eight policies had been issued to forty-eight persons in whose applications there was any statement of hereditary history of gout. These forty-eight cases were undoubtedly

considered the exceptional cases of gout that were safely insurable, and yet their acceptance has proved to have been very unfortunate for the Company." The direct cause of death in these cases were gout, heart disease, Bright's disease, acute pneumonia, and a tumour of the liver.

Rheumatism.—The term rheumatism is used in such a loose manner that it is difficult to obtain any precise information as to the part heredity plays in the development of the disease. There is, however, ample evidence to prove that rheumatism is hereditary, and the importance of heredity as a predisposing cause of rheumatism is well illustrated by examples of extremely rheumatic families given by Dr. Goodhart and Dr. Archibald Garrod. Though the question is usually asked of applicants for assurance whether there is a rheumatic family history, it is very rarely indeed that an addition to the premium is made on this score, unless there is also the history of an attack of acute rheumatism in the applicant.

Insanity.—With insanity it will be convenient to consider the hereditary influence of nervous diseases generally. The influence of the mother's insanity is more serious than that of the father, because her disease is more frequently hereditary, and because she transmits it to a greater number of children. With one insane parent and an

absence of nervous affection among his brothers and sisters, an applicant of thirty-five and upwards can be taken at the ordinary rate. As all nervous maladies appear to have a common neuropathic origin, the presence of neuralgia, chorea, epilepsy in collaterals, would increase the risk if one or both parents be insane. There seems also to be a distinct heredity in cerebral hæmorrhage, so that if there be the history of apoplexy in one or both parents, it would be safer to reject the life in the event of there being the least suspicion as to the heart or blood-vessels of the applicant, or if he has suffered from acute rheumatism, gout, or syphilis.

II.—PERSONAL HISTORY.

Next in importance to the examination of the applicant comes a careful inquiry into his past history. In order to assist his memory, most assurance offices have a list of diseases as to which the applicant is questioned. Before entering into these, attention must be directed to the importance of not recommending for assurance an applicant who is still suffering from some slight ailment, or who has only recently convalesced from an acute illness. The slight ailment may be the starting point of some severe, possibly fatal disorder; and after an attack of measles, typhoid fever, or other depressing malady, consumption not unfrequently follows.

In all references to previous illnesses it is desirable to get the date of the attack and the duration of the illness. The latter is especially necessary, as there is a great difference in importance to be attached to a cold or hoarseness which lasted a few days, compared with one which lasted weeks or months.

Fever.—The history of fever in the past, provided the attack occurred some months previously, would not affect the proposal. A recent attack of scarlet fever would suggest great care in examining the urine, and at least three or four months should have elapsed. As regards malarial fever, everything depends upon the time that has elapsed since the last attack, the absence of signs of malarial cachexia, such as an enlarged spleen, in the applicant, and whether he has any intention of returning to the locality where he contracted the fever.

Acute Rheumatism.—An attack of acute rheumatism sufficiently severe to keep the patient in bed two or three weeks, and to incapacitate him from his occupation for six or seven weeks, would require the addition of an equivalent to seven years at the age of thirty, and three years must have elapsed since the attack. If there has been more than one attack, the life would not be assurable until at least ten years after the last attack. An applicant with a rheumatic history had better not be accepted under the

age of twenty-five years. It has been suggested that the above rules are too stringent, but the recently published report on "The Causes of Death among the Assured in the Scottish Widows' Fund" lends no support to this view. Indeed, in addition to recommending an extra premium in rheumatic cases, it is therein advised that the assurance be granted for an endowment policy. The question of cardiac complications following rheumatic fever will be considered later on.

Gout.—It seems that in the past, applicants with a gouty history have not been rated up sufficiently. An attack of gout, however slight, requires the addition of at least five years. But as Dr. Symes Thompson has pointed out, "the altered style of living and inherited susceptibility favour the development of latent constitutional changes, which have taken the place of the familiar seizures of former years." These latent and ill-defined cases entail more risk than a *bonâ fide* attack of acute gout, and it is more difficult to appraise their value. The earlier the age at which gout is acquired, the greater the risk to life from disease of the heart and kidneys. Gouty subjects who have suffered from glycosuria, or who have had symptoms suggestive of an anginal attack, however slight, or are much above the average weight, should not be taken. In recommending a gouty individual for assurance it is most important

to consider his occupation, as if this is of a sedentary nature the risk is much increased. A gouty licensed victualler would necessarily be rejected. The death-rate of gouty subjects is especially heavy between fifty-five and sixty-five; hence this class of case is particularly suitable for an Endowment assurance, though of course there must be an addition made to the premium. An addition of 10 per cent is not sufficient for a Whole Life policy, at least 20 per cent is necessary; an Endowment policy might be taken with less.

Syphilis—Demands more attention from the medical officers of assurance companies than it has received in the past. It is hardly ever fatal at an early period of its course, though a few deaths from sloughing phagedæna, and acute yellow atrophy, apparently due to the poison, have been recorded. In the later stages of the disease, however, there is indirectly a great mortality from diseases of the brain, larynx, lungs, circulatory system, liver, and kidneys. Very contradictory statements have been made as to the curability of syphilis. Gowers takes a very gloomy view, and says that "there is no real evidence that the disease ever is, or ever has been cured," whereas Fagge and Pye-Smith say, "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 small-pox is free from those disorders."

My own experience is decidedly in favour of the latter view. The essential point is prompt and prolonged treatment. Ricord has said that "syphilis recognized is half cured." This emphasizes the importance of early treatment; most of the cases which give trouble in after life are those in which, owing to the mildness or the absence of secondary symptoms, the disease was not properly treated at the commencement. Hence in applicants for life assurance who have suffered from syphilis, careful enquiry must be made into the nature and duration of the treatment to which they were subjected. In reporting upon an applicant who has suffered from syphilis, particular attention must be paid to his family and personal history, and to his environment. The history of inherited or acquired disease, such as tuberculosis, gout, malaria, &c., and depressing conditions such as alcoholism, sexual excess, poverty, mental strain and anxiety, would greatly increase the risk. and would probably lead to the application being declined.

Almost all authorities are agreed that as long as there are any signs of active disease the proposal should be postponed, and some are of opinion that a man who has had syphilis has not an average expectation of life, and should not therefore be assured at normal rates. If the

symptoms of the secondary stage were mild and the applicant was carefully treated, he might be accepted with an addition of about five years at the age of thirty, provided there had been an interval of two years from the appearance of any symptom. It has been shown by Dr. George Ogilvie and others, that the greatest liability to tertiary symptoms is during the first three years after infection, so that if a period of two years has elapsed since any symptoms have appeared, the chance of the development of tertiary phenomena is very small. Dr. Moxon has stated that the average age of those dying of visceral syphilis is thirty-seven years, the risk of the occurrence of tertiary disease in a man over forty may therefore be almost disregarded, unless the disease was contracted late in life.

As syphilis contracted after fifty is a much more severe disease than that seen in early adult life, a longer period of probation must be required, and an addition will be always necessary.

If there has been any evidence of tertiary mischief, without permanent structural or organic injury, the life might be accepted with the addition of five years and upwards according to the age of the proposer, provided the disease was apparently arrested or cured. If there is any resulting structural or organic lesion, the application should, as a matter of course, be

declined. It is very unusual to get the history of inherited syphilis at the age at which life assurance is commonly effected, but supposing an adult applicant presents himself for assurance with marks of inherited syphilis, he may, if otherwise eligible, be accepted at the ordinary rates. According to Jonathan Hutchinson, "the remote affections so frequently fatal in the acquired disease are almost unknown in that which is inherited."

Phthisis and Hæmoptysis.—The history that the applicant has suffered from symptoms of phthisis in the past, or that he has had an attack of hæmoptysis, would require that he be rejected, should there be a family tendency to consumption, or should he be of light weight and feeble physique. Under any circumstances, at least ten years should have elapsed since the occurrence of hæmoptysis, or other symptoms of phthisis, and the applicant should be at least thirty-five years of age, and his personal condition and environment should be excellent to allow of his being accepted, even with an addition. It has been well said that "alcoholism makes the bed for tuberculosis." The least suspicion of alcoholism, or even the history of hereditary tendency to drink, greatly increases the risk in accepting applicants who have shown any symptoms of phthisis.

Pneumonia and Pleurisy.—After an attack of

inflammation of the lungs, sufficient time must be allowed to elapse in order that the examiner may be able to judge whether any permanent damage to the lungs has resulted. At least six months should be required, as even after all acute symptoms have passed away, inflammatory conditions may remain and afford a suitable soil for the development of the tubercle bacillus. This caution is particularly necessary if there be a family history of consumption. If the recovery has been complete, no addition is required after an attack of pneumonia.

As already mentioned, the history of a previous attack of pleurisy is suggestive of a tuberculous tendency. On the other hand, empyema is not attended with the same risk of tuberculosis, and provided the lung has expanded well, the history of an acute empyema, with recovery after excision of portions of one or two ribs, need not prevent acceptance at the ordinary rate, if a period of six months has elapsed since the applicant was quite convalescent.

Emphysema.—An applicant with a slight amount of emphysema may be accepted with an addition, provided he be in comfortable circumstances and therefore able to take care of himself. As emphysema, when it has once developed, has a tendency to advance, the policy offered to the applicant should be of the Endowment class, payable not later than sixty or sixty-five.

Emphysema complicated with frequent bronchitic attacks renders the life unassurable.

Asthma.—The history of recent asthma should lead to the rejection of a proposal. If, however, some years have passed since the last attack, and the applicant is not emphysematous, he may be accepted, though it would probably be wise to make an addition, and, as in the case of emphysema, with which it is so commonly associated, it would be wise to grant an Endowment policy payable not later than sixty or sixty-five.

Strumous Glands.—At one time great stress was laid on the history of enlarged glands, but, thanks in large measure to improved methods of treatment, enlarged glands are not met with in the classes coming for assurance so frequently as formerly. If the applicant be in good health, and many years have elapsed since the glands were affected, he might certainly be taken at the ordinary rate, provided his family history be good.

Insanity.—The mean duration of life is undoubtedly impaired by insanity ; it is, however, only in the acute forms and in general paralysis of the insane that there is any immediate danger to life. Assurance offices do not usually accept lives of those who have suffered from insanity in the past, except under very favourable circumstances.

Epilepsy.—If of hereditary origin, is a bar to assurance. Where, however, the disease is not inherited, the applicant is in comfortable circumstances, and at least ten years have elapsed since the last attack, then the proposal may be accepted with an addition. Fournier states, "True epilepsy never begins at adult age—at mature age. If an adult man above thirty, thirty-five, or forty years of age is seized for the first time by an epileptic attack, and while in apparent good health, there are, I repeat it, eight or nine chances out of ten that this epilepsy is of syphilitic origin." An applicant suffering from syphilitic epilepsy is of course unassurable.

Paralysis.—Facial palsy, if due to cold or some other cause acting on the nerve outside the skull, need not exercise any adverse influence. Both hemiplegia and paraplegia are obstacles to assurance, and so are bulbar paralysis, locomotor ataxy, and other diseases arising from sclerosis of nerve centres.

Stomach Affections.—Dyspepsia is too large a question to enter into in detail, but the history of dyspeptic troubles should suggest the possibility of early consumption, alcoholism, or cancer of the stomach.

Gastric ulcer is much more commonly met with in young females than in males, so that it rarely occurs in the history of applicants for assurance. The prognosis in gastric ulcer is so

uncertain, and the tendency to recurrence is so marked, that if the symptoms characteristic of the disease have been present the applicant should be declined, unless there has been an interval of at least five years of complete freedom from dyspeptic troubles.

Liver Affections.—An attack of jaundice in early life is probably of a catarrhal nature, and may therefore be disregarded. In middle life it is more likely to be due to gall-stone colic ; if this is the case, and the attacks have been frequent and severe, the proposal had better be declined ; but if some years have elapsed since the attack, the life may be taken with an addition. Any trace of jaundice at the time of the examination should lead to the postponement of the application. The history of slight piles would not affect a proposal; but severe piles accompanied with much bleeding should lead to a careful enquiry into the habits of the applicant, so as to exclude cases of commencing cirrhosis of the liver. In severe cases the application should be postponed until some time after the individual has been successfully operated on.

Hæmatemesis.—The history of a definite attack of vomiting of blood is necessarily a matter of great importance from a life assurance point of view. In young females gastric ulcer is the most common cause of hæmatemesis (*see*

p. 34). In middle-aged females and males generally, cirrhosis of the liver must be considered as by far the most common cause of anything like profuse hæmatemesis. As is well known, cirrhosis of the liver is usually due to alcoholism, so that the history of hæmatemesis, especially if supported by the presence of piles, should suggest a very careful enquiry into the habits of the applicant. If there should be the slightest suspicion of intemperate habits the history of hæmatemesis should suffice to exclude the applicant. In any case the occurrence of hæmatemesis is usually indicative of a condition so unfavourable to longevity, that at least ten years should have elapsed before the applicant could be recommended for assurance, and only then if he were in other respects an unexceptional life.

Epistaxis.—In the graphic language of Sir Thomas Watson, "Sometimes it is a remedy; sometimes a warning; sometimes really in itself a disease." The second clause is the one which affects us from a life assurance point of view. In early life it is of comparative small importance, being often, as Sir Thomas Watson pointed out, "a remedy"; but after middle-life it should always be looked upon with suspicion, and is often a useful "warning" of impending danger. The history of epistaxis occurring in the middle-aged should suggest the possibility of cirrhosis

of the liver, granular kidneys, or a degenerate condition of the blood-vessels, with a consequent tendency to cerebral hæmorrhage.

Fistula.—In cases of fistula very careful enquiry should be made as to the history of a cough, and the examination of the chest should be more than usually rigorous; this should especially be the case if there be a family history of consumption. It is well, however, to bear in mind that a fistula may be purely of traumatic origin, and due to the impaction in the rectum of a fish-bone or some other foreign body which has been inadvertently swallowed.

Appendicitis.—As might have been expected, the great attention which has of late years been devoted to the recognition and treatment of appendicitis has been reflected in life assurance, but it is only within the last two or three years that the subject has received adequate attention. Statistics in the past are too misleading to be of any great service, so that from an assurance point of view it is impossible to do more than lay down some general suggestions as to the course to be adopted in any given case. In endeavouring to obtain a history of previous attacks of appendicitis much difficulty will usually be experienced, as this disease may appear in many disguises; as, for instance, colic, constipation, inflammation of the bowels, stoppage of the bowels, and peritonitis. This

latter condition, indeed, in the male is usually due to appendicular trouble, but in the female the pelvic organs have also to be considered.

In order to arrive at a conclusion it will be necessary to enquire into the number, severity, and duration of the attacks, the date of the last attack, the mode of termination, the method of treatment adopted, and in cases in which surgical measures have been undertaken, whether the appendix was completely removed. In examining an applicant the existence of any induration in the region of the appendix, with tenderness, would indicate the liability to relapse. If the appendix has been removed and primary union obtained, the applicant might be accepted in three to six months after the operation at the ordinary rates. In cases of suppurative appendicitis, after removal of the appendix at least six months should elapse before the case is accepted. In cases of suppurative appendicitis in which spontaneous rupture has occurred, or in which the appendix was not removed at the time of operation, the life should not be accepted for two years after complete freedom from all symptoms. A single definite attack yielding to medical treatment might be accepted after three years' immunity; recurrent cases would require at least five years' immunity; and until we have more exact information as to the after-history of this disease, all cases of appen-

dicitis in which the appendix has not been removed should be rated up about five years at twenty-five, or its equivalent. There is great danger in the event of appendicitis occurring during pregnancy; so that a woman who has suffered from an attack of appendicitis and has not had the appendix removed runs a great risk if she becomes pregnant.

Dropsy.—The history of an attack of dropsy in the past necessitates the rejection of the applicant, with the single exception of the dropsy which occasionally occurs as a complication of acute desquamative nephritis, as, for instance, after scarlet fever. If four or five years have elapsed since the illness, and there have been no signs of renal trouble in the interval, the life may be accepted.

Stone.—If there is any suspicion of stone in the kidney or bladder, the application must be postponed until the doubt has been cleared up, or the stone removed by surgical treatment. Applicants who have been successfully operated on for stone may be taken with an addition, provided some years have elapsed since the operation, and the state of the general health is quite satisfactory. If the applicant has had an attack of renal colic, three or four years should elapse before the application can be entertained. Hæmaturia may point to the presence of a stone in the bladder or kidney, or

it may arise from malignant or other disease of these organs. In any case, much caution is required before recommending an applicant who has suffered from hæmaturia in the past.

Stricture and Gonorrhœa.—In the past too little importance has been attached to the history of gonorrhœa followed by stricture; yet it cannot be doubted that much of the mortality in the later years of life, due to bladder and kidney trouble, is the result of this disease. A slight degree of stricture requires an addition; the more severe forms should be declined. The question frequently arises as to the desirability of accepting an applicant who is suffering from a mild attack of gonorrhœa; but, acting on the rule that if the applicant is suffering even from a slight illness it is wiser to postpone the case, I would advise that the application be deferred until the discharge was cured.

Operations.—The great development in all operative surgery which has taken place in the last ten years has given rise to some perplexing questions in life assurance. Should, for instance, an applicant be accepted at any rate of premium in whom cholecystotomy has been performed? The well-known liability of recurrence in persons who have once suffered from gall-stones, and the tendency to malignant disease of the gall-bladder in these persons, should constitute a bar to assurance, except at almost prohibitive

rates. A person who has had one kidney removed, from whatever cause, could hardly expect that a proposal by him for assurance would be seriously entertained; on the other hand, the performance of nephro-lithotomy, provided three or four years have elapsed since the operation, and there has been no recurrence, need not necessarily preclude assurance, though a large addition to the premium would be required. In cases of gastro-jejunostomy for gastric or duodenal ulceration, at least five or six years should have elapsed before the application can be considered, and even then the addition to the premium would have to be large. In gastro-jejunostomy for fibroid stricture of the pylorus the period of probation might be less and the addition smaller. Provided sufficient time has elapsed to prove the success of the operation, applicants who have been operated on for radical cure of hernia may be taken at the ordinary rate.

III.—PRESENT CONDITION.

Before proceeding to describe the method of examination to be carried out in the case of applicants for assurance, it may be well to give *in extenso* Hufeland's portrait of a man destined to long life, so as to serve as a type of the ideal applicant :—

Hufeland's Portrait of a Man destined to Long Life.*

"He has a proper and well-proportioned stature, without, however, being too tall. He is rather of the middle size, and somewhat thick-set. His complexion is not too florid; at any rate too much ruddiness in youth is seldom a sign of longevity. His hair approaches rather to the fair than the black; his skin is strong, but not rough. *His head is not too big;* he has large veins at the extremities, and his shoulders are rather round than flat. His neck is not too long: his abdomen does not project; and his hands are large, but not too deeply cleft. His foot is rather thick than long; and his legs are firm and round. He has also a broad, arched chest, a strong voice, and the faculty of retaining his breath for a long time without difficulty. In general, there is a complete harmony in all his parts. His senses are good, but not too delicate; his pulse is slow and regular. *His stomach is excellent*, his appetite good, and his digestion easy. The joys of the table are to him of importance; they tune his mind to serenity, and his soul partakes in the pleasures which they communicate. He does not eat merely for the sake of eating, but each meal is an hour of daily festivity, a kind of delight attended with this

* "Walford's Insurance Guide," page 143.

advantage with regard to others, that it does not make him poorer, but richer. *He eats slowly*, and has not too much thirst. Too great thirst is always a sign of rapid self-consumption. In general, he is serene, loquacious, active, susceptible of joy, love, and hope ; but insensible to the impressions of hatred, anger, and avarice. His passions never become too violent or destructive. If he ever gives way to anger he experiences rather a useful glow of warmth, an artificial and gentle fever, without an overflowing of the bile. He is fond also of employment, particularly calm meditation and agréeable speculation, is an optimist, a friend to nature and domestic felicity. Has no thirst after honours or riches, and banishes all thoughts of to-morrow."

Age.—The age of the applicant is an important factor in estimating the risk of life assurance. It has been computed that 30 per cent of the assured are over forty years of age, but the amounts assured are much larger in proportion. The younger the life the more rapidly is the effect of selection diminished ; in middle life the effect is slow, and in the older lives it probably never disappears. In other words, there is more certainty about the result of examination of middle-aged and elderly applicants whose habits are formed, and who have passed through the dangers and risks of early adult life. There are, however, some special difficulties and pitfalls

to be avoided in the examination of these lives. In the first place, the environment of the applicant, his mode of life, his business relations and financial conditions, are of much greater importance in estimating his chances than at an earlier period of life, when if one business or profession is unsuitable, it is still easy to turn to another with hope and energy unabated. Then it is very necessary to be on the look out for latent evidences of degeneration in the kidneys, cardio-vascular system, and other organs. Moreover, the middle-aged applicant is prone to conceal evidences of degeneration. If the applicant for assurance were presenting himself to a physician for advice, he would probably remember that he was losing flesh slightly, that his brain was not quite so active as formerly, that his memory was failing, and that he had occasional attacks of slight dizziness, or of cardiac pain, and perhaps increased frequency of micturition, especially at night. All these and other signs of danger the applicant is prone to conceal from the medical examiner, sometimes from natural pride and the rebellion against advancing age, and sometimes purely for the sake of securing assurance.

As applicants advance in years, so their idea of the ages at which their forebears died seems to advance; too much reliance must not therefore be placed on the assertions of the applicant,

unless supported by documentary evidence. Then again, the assigned causes of death are usually so unreliable that the family record must be weighed by the mortality of its members, the causes being disregarded. With these precautions, and after a careful examination, the healthy middle-aged and elderly applicant may be recommended with greater confidence than the juvenile aspirant for assurance.

Race.—In this country the race of the applicant is a matter of small importance, except perhaps the tendency of Jews to diabetes, tabes, and other nervous affections, their less tendency to consumption, pneumonia and alcoholism, and their more than average longevity. It is beyond the scope of the present work to discuss the assurance of Orientals and other coloured races.

* * * * * *

The most important point in life assurance is the present condition of the applicant as tested by a careful physical examination. The first step is to take the height and weight of the individual, and in addition to the mere weight, it is most important to note whether the weight is increasing or decreasing.

Height, Weight, and Figure.—It has been shown by experience that men of from five feet six inches to five feet nine inches in height are the most

capable of prolonged physical exertion, and there can be no doubt that in persons of unusual height there is extra strain on the heart. An increased height above five feet ten inches is an increased risk. From a life assurance point of view, men of moderate stature are therefore to be preferred to those of six feet and upwards. Of even more importance than the mere height of the individual is a due proportion between height and weight. The appended table gives the standard at the age of thirty with sufficient accuracy. If the applicant's height be taken with his boots on, the heels of the boots will nearly counterbalance the clothes, so that no allowance need be made for ordinary clothing (without over-coat) in estimating the proportion between height and weight.

Height		Standard Weight			15 per cent under Weight			15 per cent above Weight			Circumference of chest, medium
ft.	in.	st.	lbs.	lbs.	lbs.	st.	lbs.	lbs.	st.	lbs.	inches.
5	0	8	0	112	95	6	11	128	9	2	33½
5	1	8	4	116	98	7	0	133	9	7	34
5	2	9	0	126	107	7	9	145	10	5	35
5	3	9	7	133	113	8	1	153	10	13	35½
5	4	9	13	139	118	8	6	160	11	6	36
5	5	10	2	142	120	8	8	163	11	9	37
5	6	10	5	145	123	8	11	166	11	12	37½
5	7	10	8	148	125	8	13	170	12	2	38
5	8	11	1	155	131	9	5	178	12	10	38½
5	9	11	8	162	138	9	12	186	13	4	39
5	10	12	1	169	144	10	4	194	13	12	39½
5	11	12	6	174	148	10	8	200	14	4	40
6	0	12	10	178	151	10	11	205	14	9	40½
6	1	13	0	182	154	11	0	210	15	6	41

A margin of 15 per cent in either direction is admissible under ordinary circumstances. Some authorities allow of 20 per cent, but the mortality of the light weights from tuberculosis and other wasting diseases is so great, that applicants for assurance who are more than 15 per cent under weight should only be accepted after a most careful and rigorous examination. Where there is a marked family history of consumption the case had better be declined, if the applicant is under thirty years of age. It must be remembered that loss of weight is one of the earliest symptoms of incipient phthisis. The recognition that the applicant is below the standard weight should lead the examiner to endeavour to discover the cause, as under-weight may be the result of digestive disorders, insufficient food, and over-work, all conditions unfavourable to longevity. Light weights are very usually of a nervous temperament, and consequently wear out sooner than their contemporaries who are of the ordinary build. On the other hand, under-weight may be of hereditary origin, the applicant coming from a thin but wiry and tough family.

As regards over-weight there does not seem to be the same risk, and it is not until the excess becomes from 20 to 25 per cent that there need be any apprehension. The extra mortality among the over-weights is due chiefly to diseases of the brain, heart, and liver, and there is a

tendency to sudden death. They are also particularly liable to succumb to accidents and operations. In cases, therefore, of over-weight, early deaths of parents or other relations from diseases of a degenerative nature, *e.g.*, apoplexy, heart disease, paralysis, and diabetes, should suggest great caution in accepting the life, as should also a gouty personal history. The connection between excessive weight and diabetes is shown by the fact that according to statistics of the Connecticut Mutual Life Insurance Company, 28 per cent of all deaths from diabetes were found among the over-weights, and not one death among the under-weights.

Any sudden increase in weight due to change in habits of life is very unfavourable, as these persons are particularly liable to suffer from degenerative lesions.

Loss of weight in the middle-aged, especially if associated with dyspeptic symptoms, should lead to the case being deferred. The early beginnings of malignant disease are very difficult to detect, hence it is better to be on the safe side.

The occupation of the applicant should also be taken into consideration, as in a man of active habits and out-door life, a larger percentage may be allowed than would be safe for a man leading an indoor, sedentary life. In no class of case is family history of more importance than in dealing with over-weights.

If neither parent has died under seventy, much importance need not be attached to the fact of the weight being from 15 to 20 per cent above the standard, but if both parents have died under this age, especially if from degenerative diseases, it is unwise to accept applicants if they are upwards of 20 per cent above the standard. It is better to recommend such over-weights for Endowment policies, according to the age of the applicant.

The table given on page 46 has been calculated for men of the age of thirty: half a pound a year may be deducted, or added, according as the applicant is younger or older than thirty. After fifty the addition is not to be allowed, as normally there should be but little change in build after this age.

Not only should there be a proportion between the height and weight of an individual, but there should also be one between the height and chest measurement. Roughly, the chest measurement should not be less than half the height, that is to say, a man of five feet six inches should have a chest measurement of not less than thirty-three inches. On referring to the table on page 46, this will be seen to be quite the minimum measurement. The shape of the chest is also of great importance. The flat, phthinoid chest, with defective expansion, would be an additional factor in rejecting an applicant with a family

history of tuberculosis. Whereas if the chest is inclined to be barrel-shaped, the other physical signs of emphysema should be sought for, and if present to any extent, should of course materially affect the decision as to the acceptance of the application. A variation of more than 15 per cent below the standard chest measurement should be looked upon with suspicion. This should especially be the case if the family history of the applicant indicates a tendency to pulmonary tuberculosis. Perhaps even more important than the actual chest measurement, is the question of chest expansion. A good chest expansion is a great safeguard against pulmonary tuberculosis, and a range of expansion from forced expiration to forced inspiration of two inches at five feet height, and three inches at six feet height respectively, should be the minimum. The presence of any inequality between the movement of the two sides of the chest should lead to enquiry as to past history of pleurisy or pneumonia. The inequality may point to commencing pulmonary tuberculosis, or the presence of a tumour of the lung.

It must, however, be remembered that in right-handed people the right side of the chest is larger than the left, while in left-handed people the left side is the larger.

Complexion, Eyes, Ears, Etc. — After noting down the height and weight of the applicant,

attention should be directed to his complexion. Injected capillaries of the cheek should suggest enquiry as to habits of chronic alcoholism, or the existence of valvular disease of the heart; sallowness or jaundice points to liver disease; pallor to anæmia and wasting diseases; puffiness of the eyelids to Bright's disease. Extreme contraction of the pupil may be a symptom of tabes, and should lead to the pupillary reflex being tested; and the existence of the Argyll-Robertson phenomenon should cause rejection; inequality should excite suspicion of general paralysis, aneurysm, &c. Complete blindness necessitates an addition on account of the extra risk of accidents. An addition of 10 per cent would probably cover this.

If there be a *discharge from the ears*, or deafness, the ears should be carefully examined. In the event of there being polypi or granulations within the tympanic cavity, any evidence of disease of the temporal bone, abundant offensive discharge of long standing, pain or tenderness in the neighbourhood of the ear, giddiness, or affection of the facial nerve, the application should be rejected.

If there be a moderate amount of discharge, not of an offensive nature, and an absence of all the symptoms mentioned above, the case should be referred for treatment, and might be accepted, though possibly with an addition,

when there has been no discharge for a year or more.

The question of accepting with an addition cases of otorrhœa comes up occasionally before assurance companies. The risk of accepting an individual with a discharge, however slight or unimportant, is very considerable, so that until more definite evidence is obtainable on this subject, most companies will probably think it wiser to decline such cases, unless there be very special reasons for acceptance.

Should there be complete deafness, an addition of 5s. per cent would probably meet the extra risk of death from accident.

Throbbing of the carotids would emphasize the importance of carefully examining the heart for signs of aortic regurgitation. Fulness in the thyroid region should direct attention to the possibility of commencing Graves' disease.

Attention should be paid to the applicant's voice. In cases of hoarseness a laryngoscopic examination should be insisted upon, but a routine examination of the larynx is unnecessary. Any existing laryngeal ulceration or paralysis would be a bar to assurance; cases of laryngitis had better be deferred.

The examination of the face should be completed by a glance at the nose. Unilateral nasal discharge would suggest the presence of sinus disease, which in its way is almost as serious as middle-ear suppuration.

Any peculiarities presented by the applicant, such as scars, tattoo marks, unusual size or conditions of ears, &c., should be noted down, as in the case of the applicant being unknown to the examiner, it is very desirable to have some marks of recognition in order to prevent fraud.

Even so comparatively unimportant a part of the body as the nails may afford useful information, *e.g.*, a transverse ridge on the nails will indicate some disease interfering with nutrition during the previous six or seven months. Clubbed fingers would point to some chronic affection of the chest.

Apparent Age.—The apparent age of the applicant should be compared with his real age, and signs of premature old age, such as baldness, grey or white hair, arcus senilis, etc., should be noted. If with the existence of any of these conditions there be a family history of early death from apoplexy, aneurysm, and other diseases arising from degenerative changes, the examination of the applicant should be conducted with more than usual care, and the life rated up or rejected should there be any suspicion of the commencement of senile degeneration not justified by the age of the individual.

Chest.—The applicant should now be stripped to the waist, and the chest carefully examined. It is hardly possible to attach too much importance to the necessity of the applicant being

examined with the chest bared. The pulsation of an aneurysm, enlarged veins, &c., may be overlooked, and the physical signs of incipient tuberculosis not recognised, unless this precaution be taken.

The chest should expand freely in all directions ; respiration should be quiet and easy, and should not exceed twenty in the minute.

The thoracic deformity left by pleurisy or spinal curvature may greatly increase the risk of an attack of bronchitis or pneumonia. As long as the circumference round the abdomen does not exceed that round the chest above the nipples, exception need not be taken to the figure of the applicant, but a protuberant belly is not desirable from a life assurance point of view. The slightest evidence of existing phthisis should lead to the rejection of the application. The same rule holds good for candidates with a doubtful family history, in whom there is evidence of old mischief. Cases are occasionally met with in which there are merely some impairment of resonance and deficient expansion with bronchial breathing at one apex ; if under these circumstances the applicant has a good family history, if his general condition, especially as regards weight, is good, if the attack dates back at least eight or ten years, and the applicant is thirty years or upwards, the life may be recommended with an addition.

After examining the chest, the opportunity should be taken of noting the presence of scars due to old syphilitic or tuberculous ulceration, or left by leeches, cupping, and bleeding. They are often forgotten until the applicant's attention is directed to them by the examiner, and they are of great value as evidences of past illness.

Heart.—In the examination of the heart it is most important to note the area of cardiac dulness, and the exact position of the apex beat. As the bruit of mitral stenosis is often audible only in the recumbent position, it is desirable that auscultation should be carried out when the applicant is lying down as well as when he is standing. Displacement of the apex beat, increased or diffused impulse, and increased area of cardiac dullness, should lead to a careful examination in order to discover the cause. At one time the mere existence of a cardiac murmur of organic origin was sufficient to exclude an application for assurance, but increasing experience has shown that under favourable circumstances, even well-marked examples of valvular disease may be accepted at an increased premium.

There can be no doubt that many applicants are rejected on account of supposed heart disease. The medical examiner should remember that a systolic murmur at the apex may be of hæmic or of cardio-respiratory origin, and he should not diagnose mitral regurgitation unless the

murmur is conducted into the axilla, with accentuation of the pulmonary second sound and signs of cardiac hypertrophy. On the other hand, the cardio-respiratory murmur often disappears when the applicant is in the recumbent position or holds his breath.

The origin of the valvular lesion is a very important element in prognosis. Valvular disease starting from an attack of acute endocarditis is much less likely to be progressive than cases in which the disease originated in some degenerative process. This is one of the reasons why mitral disease, which so frequently starts from the endocarditis of acute rheumatism, is usually less dangerous than aortic disease, which, as a rule, is the result of a degenerative change. Hence an applicant for assurance who is found to have valvular disease of the heart, with the history of an attack of acute rheumatism dating back twenty years, is in a very different position from one in whom cardiac disease has come on insidiously in middle life.

A systolic murmur heard loudest in the aortic area was at one time regarded as being due to aortic stenosis; it is now considered as being usually caused by roughening of the aortic valve. If the applicant's general condition is favourable and there are no signs of arterio-sclerosis, the case may be taken with a moderate addition, but the examiner should be very careful to

exclude the possibility of aortic regurgitation. True aortic stenosis, as evinced by a rough murmur, the presence of a thrill, the signs of an hypertrophied left ventricle, and a small, slowly rising and prolonged pulse, would be a bar to assurance. In the examination of the heart particular attention should be paid to the character of the second sound in the aortic area. A ringing aortic second sound may indicate an aneurysm, arterio-sclerosis, or renal disease, and should always be a danger signal to the medical examiner.

The records of life assurance offices show that thoracic aneurysms are frequently over-looked. In many instances this omission is almost unavoidable, as even when a patient is anxious to give all the information he can, the physical signs are often too ill defined to enable a diagnosis to be arrived at; but only gross carelessness and the failure to bare the applicant's chest could be responsible for recommending him for assurance with a pulsating aneurysmal tumour.

As regards cases of aortic regurgitation, there is a consensus of opinion that they are not assurable on any terms.

If there be a systolic murmur in the pulmonary area, and the examiner is satisfied that it is of hæmic origin, then the decision as to whether he shall recommend the applicant for assurance must depend on his general condition. The

presence of marked anæmia would suggest the advisability of postponing the application, and in any case of doubt it is best to do so.

In considering cases of heart disease, the condition of the heart as regards the existence of hypertrophy or dilatation, and the frequency, irregularity, or intermittency of its action, are the most important elements in arriving at a decision ; the exact murmur (aortic regurgitation excepted) is of less moment. The effect of exertion and posture on the heart's action must always be borne in mind. Some murmurs are only audible after exertion ; even walking sharply up and down a room will suffice to cause a murmur to be recognised which was previously inaudible, and, on the other hand, as already mentioned, the murmur of mitral stenosis is sometimes only heard when the individual is in the recumbent position. This is a matter of considerable importance, as mitral stenosis is almost as much a bar to assurance as aortic regurgitation.

Given an applicant, whose age does not exceed forty, with mitral regurgitation, which has existed for at least three years, whose pulse is regular, of normal frequency and volume, who is not rendered short of breath by moderate exertion, and who is in favourable circumstances as regards his work and environment, who has not suffered from syphilis, then the life may be taken with an addition of from seven to fifteen years ; for an

Endowment assurance payable at fifty or fifty-five, a much smaller addition would suffice, as statistics show that upwards of 75 per cent of cases of heart disease exceed fifty years before dying. On the contrary, the application should be rejected if the pulse is too frequent, irregular or intermittent, if there is breathlessness or any tendency to cyanosis after exertion, and especially if the heart affection is due to a recent attack of acute rheumatism in a young subject, or is the result of a degenerative lesion coming on in middle life.

The question of the applicant's weight must also be considered, as the prognosis in valvular disease of the heart is less favourable in persons above the average than in those who are of normal weight or under-weight.

If the applicant is a female during the reproductive period of life, even greater caution is required in accepting the life for assurance, should there be signs of valvular disease of the heart; inasmuch as the strain and stress of pregnancy not infrequently induce the first symptoms of failing cardiac compensation. Any signs of dilatation of the heart would necessarily exclude the applicant, and the same may be said of hypertrophy, unless it is compensating mitral regurgitation.

Of all forms of heart disease, fatty heart is perhaps the most difficult to recognise with

certainty, and is one which not infrequently results in great loss to the company. Given a feeble impulse, with a feeble first sound at the apex and a feeble pulse of rather less than the average frequency, then the examiner's suspicions should be aroused as to the possible existence of fatty degeneration of the heart, and the life should of course be declined.

Pulse.—In the case of adults, sitting, the pulse should be between sixty-four and eighty-six, and change of position should not make a greater diffirence than about ten beats per minute. A *too frequent pulse* may be due to the excitement of the examination, or may be merely the result of nervousness. There are usually other signs to indicate its nervous origin, and as the proposer becomes calmer the pulse lessens in frequency. Be the explanation what it may, over-frequency of the pulse is not a favourable sign from a life assurance point of view. The commonest causes of rapid pulse or tachycardia are most forms of cardiac disease, neurasthenia, Graves' disease, the result of excessive indulgence in tobacco and alcohol.

The opposite condition, the infrequent pulse or bradycardia, *i.e.*, a pulse below fifty-six, should also excite suspicion, as it may indicate the existence of brain lesions, fatty heart, arterio-sclerosis, and certain affections of the liver. In some persons the pulse is normally infrequent. An irregular pulse should lead to the postponement

of the proposal and re-examination of the applicant. An intermittent pulse may be due to dyspepsia : it is not infrequently met with in persons who drink too much tea or indulge immoderately in smoking. In rare cases it is of congenital origin. Under these circumstances the life may be accepted at the ordinary rate. In some cases in which the cardiac condition is due to nervousness, the normal state of the applicant's pulse may be obtained by getting him to take a little exercise.

On the other hand, an intermittent pulse is sometimes an element of importance in relative old age, occurring in people with degenerate vessels, and it may be a precursor of angina pectoris. It is a good thing to feel both pulses, as inequality of the radial pulses may lead to the detection of an aneurysm. Attention should also be directed to abnormal rigidity or increased tension of the pulse.

The presence of arterio-sclerosis in an applicant with a family history pointing to degeneration of the arteries, should lead to his rejection, or acceptance for an early Endowment assurance with an extra. If, in addition, there be a personal history of a gouty or rheumatic tendency, the life is still more unacceptable. In any case the indications of arterio-sclerosis should be very slight to allow of the life being accepted, and they should not be present before the fiftieth

year. There is much truth in the axiom that "a man is only as old as his arteries," or, as Osler puts it, longevity is mainly a vascular question. If this were borne in mind by the medical examiners to Life Assurance Companies, many applicants, whose premature death from apoplexy, aneurysm, kidney disease, &c., has been a loss to the Company, would have been rejected, or only taken for an early Endowment policy with an addition. The stress and strain of modern life are more and more leaving their mark on the vascular system of the eager competitors in the battle of life, especially those who work at high pressure with their brains, so that the question of arterio-sclerosis is one of increasing importance in Life Assurance.

Temperature.—It is usually quite unnecessary to take the applicant's temperature, but any undue frequency of the pulse or any other indication of the febrile state, should lead to the use of the thermometer, and if the temperature be above normal the case should be postponed. The temperature taken in the morning is of little value, so that in a doubtful case the afternoon temperature should be tested. Bearing in mind the tendency of light weights to suffer from tuberculosis, it would be an additional precaution in a case much under the standard weight to test the applicant's temperature between 4 and 7 p.m., if possible.

Digestion.—After examining the condition of the heart and pulse, careful inquiry must be made as to the manner in which the *digestive functions* are performed. A good set of teeth presupposes that the first act of the process will be well carried out, and is therefore of favourable omen for assurance. A blue line along the gums would suggest lead poisoning. Goodhart suggests that the capability of making a good breakfast should influence the acceptance of a proposal for assurance. A furred tremulous tongue and foul breath point to the possibility of chronic alcoholism. If there be any suspicion of this the applicant should be placed on a couch, and the abdomen examined in order to detect any alteration in the size of the liver. The existence of piles should also lead to a careful enquiry as to habits. Should the applicant be jaundiced, he must be referred until he is quite free from bile staining.

If the applicant has resided in a malarious district, the condition of the spleen should be noted.

Nervous System.—As a rule, persons suffering from nervous affections do not present themselves for examination; still, the medical examiner should be on the look out for tremor of the lips, difficulty in protruding the tongue, and alteration in the voice, as pointing to bulbar paralysis, or to general paralysis of the insane. A glance

at the applicant whilst undressing or walking should be sufficient to detect the existence of hemiplegia, paraplegia, or other motor affection. The knee jerks should be tested in all cases; this procedure occupies only a few seconds, and oftentimes yields valuable information. The absence of knee-jerks, when checked by the method of reinforcement, in cases coming for assurance, is most likely to be due to tabes, diabetes mellitus, or alcoholic neuritis.

An exaggerated knee-jerk is of less importance, and may be disregarded unless excessive. Tremor of the hand, or want of steadiness in writing, should suggest the suspicion of alcoholism.

Hernia.—The extra risk due to the existence of a reducible inguinal hernia which has never been strangulated, is usually met by an addition of one to two years, provided a well-fitting truss is worn. It has yet to be proved that any addition is needed on account of a rupture, and some of the best offices accept applicants who are ruptured, provided they are not engaged in very laborious work, and wear a truss.

A partially reducible hernia requires a considerable addition, or if the applicant be engaged in laborious work, it might be more prudent to decline the life. A femoral hernia implies more risk than an inguinal one, and consequently necessitates a higher premium. An applicant with an umbilical hernia had better be declined,

unless an expert on the subject is able to give a favourable report, but even then the life should be rated up from seven to ten years.

The question of residence ought to be considered; as if the applicant were going to an out-of-the-way part of the world, surgical assistance might not be at hand in case of need, and it would be difficult to replace a damaged truss.

Urinary Organs.—Lastly, the state of the genito-urinary organs must be enquired into. The effect of stricture has already been discussed.

Of late years all offices have very rightly insisted upon the routine examination of the *urine*. Some offices, in addition to the usual chemical examination, insist on a microscopical examination, if the amount of the policy is very large. The examiner should require the urine to be passed in his presence; this ensures a fresh specimen, and prevents fraud. If the urine be passed in an adjacent room, it would be well to test the warmth of the specimen presented for examination, so as to guard, as far as possible, against a sample being brought which was not passed by the applicant. The specific gravity is usually taken; in health this varies between 1015 and 1025, but a single specimen is often lower than 1015, and occasionally above 1025, without having any pathological significance. It is not advisable to pass an applicant over fifty whose urine is of lower specific gravity than

1015, even though no albumen be detected, without obtaining a second specimen for examination. Urine of persistent low specific gravity should awaken suspicion of chronic interstitial nephritis, and should lead to extra care in the examination of the cardio-vascular system, and, if possible, to an ophthalmoscopic examination.

The appearance and colour of the urine should be noted, and the detection of shreds in it should lead to careful investigation as to the condition of the urethra.

It is important to test the re-action, as unless the urine is already distinctly acid, or has been acidulated by the addition of acetic acid, albumen will oftentimes not be precipitated on boiling. Unless the urine be quite clear, it should be filtered before proceeding to examine for albumen.

For life assurance purposes the plan of boiling the upper stratum of urine in a test tube is of sufficient delicacy to detect albumen. If opalescence is produced by boiling, nitric acid must be added to exclude phosphates; if there is no change on boiling, the absence of albumen may be confirmed by the cold nitric acid test. The reaction comes out more distinctly if the urine be poured on the acid, rather than allowing the acid to trickle down the side of the test tube, the urine having been poured in first.

To detect sugar, Fehling's test is the most convenient. It is desirable that the sulphate of copper

and alkaline solutions should be kept in separate bottles, and only mixed at the time of examination. Equal quantities of the two solutions should be boiled, and if after boiling the solution is of a deep blue colour and quite translucent, some of the urine to be tested should be boiled and added to the boiling Fehling's solution. If sugar is present it will usually be at once recognized, owing to the precipitation of the yellow sub-oxide of copper. If there is no precipitation or decolorisation of the solution, heat may be applied to the mixture of urine and Fehling's solution; but anything like prolonged boiling must be avoided, as there are other reducing agents, occasionally present in urine, which will throw down the sub-oxide of copper after prolonged boiling. In doubtful cases, some authorities say in all cases, the presence of sugar must be confirmed by the fermentation test. The examiner should be careful not to commit himself to the statement that the urine contains even a trace of sugar, until he has considered the possible fallacies, and has submitted the urine to confirmatory tests, and, if possible, after the examination of more than one specimen.

The detection of a considerable amount of albumen, especially in urine of a low specific gravity, and the presence of casts, should lead to the rejection of the application. There is, however, a series of cases to which the terms

"functional," "cyclic," or "intermittent" albuminuria have been applied. This is a class of cases which causes more trouble to the medical examiner for life assurance than almost any other. At the present time, sufficient data have not been collected upon which to found any definite conclusions. The discovery of the so-called functional albuminuria is of comparatively recent date, and we do not yet know what the after history of those subject to this condition will be. The time may come when it may be possible to differentiate between cases of albuminuria due to temporary causes, and those due to commencing organic disease of the kidneys; at the present time, however, the only safe course is not to recommend for assurance any applicant whose urine contains albumen. Supposing the applicant is otherwise healthy, under forty years of age, free from cardiac hypertrophy and rigid vessels, and from all signs of gout, absolutely temperate, not over weight, and without a family history of Bright's disease, it would be advisable to defer the case for three to six months, and if the urine were found to be free from albumen, the life could then be accepted. If the urine still remained albuminous, a further period of probation might be suggested, or the applicant might be granted an Endowment policy payable at fifty or fifty-five, an addition of about ten years being made. A fairer arrange-

ment for the applicant, however, is to charge the extra premium as a debt on the policy; this debt is diminished each year until, at the expiration of the term for which the life may be expected to live, the debt is cancelled and the sum assured is payable in full on subsequent death. The only conditions under which it would be possible to entertain the proposal of an applicant whose urine was albuminous at the time of examination, are that he should fulfil the requirements mentioned above, and that in addition the albuminuria is not accompanied by the presence of casts, that the amount of albumen is less than one tenth of the bulk of urine examined, and that the specific gravity of the urine taken on several occasions—still better that of a sample of the total urine for twenty-four hours—is not under 1015.

Much the same course should be taken as regards glycosuria. There are cases of temporary glycosuria, probably connected with dyspepsia, which may be taken with an addition, if the urine at the time of examination is free from sugar, and there is no family history of diabetes. The safest plan would be to advise an Endowment policy payable not later than sixty-five. If the applicant be suffering from true diabetes, be he young or middle-aged, he should not be recommended for assurance, even for a short term policy. Life is too uncertain a quantity

in the diabetic to admit of assurance. The importance of diabetes from an assurance point of view is shewn by the fact that the death-rate of this disease was more than three times greater in 1900 than in 1860; the increase being nearly uniform during the forty years.

Though chyluria is a rare condition, it has been met with in life assurance practice. It seems to have but little effect on the general health, but as its course is uncertain, applicants suffering from chyluria should be declined.

The appearance of pus in the urine should always lead to the application being deferred. It may, of course, be merely a temporary condition resulting from urethritis, but on the other hand it may be an indication of tuberculous cystitis or pyelitis. In elderly people the causes which give rise to pyuria are usually permanent, and point to bacterial infection of the urinary tract.

The presence of blood in the urine will necessarily lead to the postponement of the application.

Vaccination.—When the applicant is stripped for examination of the chest, the opportunity should be taken of inspecting the marks of vaccination. It is an almost universal custom of the British Life Offices to ask, "Has the life been vaccinated," but up to the present the question of re-vaccination has hardly been raised. The practice of Life Offices in regard

to applicants who are unvaccinated varies very much. A few do not make any extra charge. Some insert conditions that the policy is null and void in the event of death from variola; others return only surrender value in similar circumstances. A considerable number decline the case if unvaccinated. The majority of offices make an addition of 2s. 6d. to 10s. per cent.

Miscellaneous Questions.—The effect of the loss of a limb is somewhat difficult to estimate. If this has occurred as the result of an accident, there need be no additional risk, though it sometimes leads to plethora and corpulence. If the limb has been removed for tuberculous disease of the joint, the possibility of recurrence in some other organ must be borne in mind, and the application can only be accepted after the lapse of several years, and then with an addition, if the applicant's health is in other respects unexceptional. It has been shown that the spores of the bacillus of tuberculosis may remain in a latent condition for an indefinite period of time in the cicatrized primary lesion, to become a cause of subsequent danger as soon as the local or general conditions enable them to develop and exercise their specific pathogenic properties. Cases are, however, not unfrequently seen in which, as soon as the local cause of irritation has been removed by amputation, the general health becomes completely and permanently

established. Unfortunately for life assurance purposes, we cannot regard these as the rule.

It need hardly be stated that any operation undertaken for the removal of malignant disease in any part of the body, and however successfully carried out, completely disqualifies for assurance.

Any existing ulcer should lead to the proposal being deferred until the part has become completely and firmly healed.

Varicose veins need not be regarded unless they are very large; in this case the risk of rupture and fatal hæmorrhage, or of embolism, must be considered, and the proposal accepted with an addition, or declined. It has been suggested that from a life assurance point of view varicose veins might be disregarded, but a recent claim arising out of death from pulmonary embolism as a result of varicose veins, has accentuated the need of caution.

Chronic skin affections, such as psoriasis and eczema, as a rule have little or no adverse influence on the expectation of life, nevertheless the possibility of a chronic eczematous condition of the nipple giving rise to Paget's disease must be remembered. The existence of chronic eczema in a person with a gouty family history would suggest an addition.

Slight cases of Pott's disease, in which the disease has been arrested for ten years and upwards, may be taken with an addition, provided

the applicant is in every other way an unexceptionable life, and his weight is up to the standard for his height. Anything like severe Pott's disease should be a bar to assurance.

A slight amount of lateral curvature need not prevent the acceptance of the life at the ordinary rate. If the curvature is sufficient to interfere with the respiratory capacity of the chest, then either an addition should be made or the application declined, according to the amount of deformity.

Infantile paralysis, as it indicates a lesion which has come to an end, need not necessarily indicate any addition to the premium, unless in the case of the leg being affected it interferes with applicant's power of taking exercise.

IV.—ENVIRONMENT.

The remaining point to be considered in regard to life assurance is the Environment of the applicant. Under this head are included the social state, occupation, habits and mode of life, and residence.

Social State.—The *social state* of the individual, *i.e.*. whether he is married or single, has a certain amount of influence on the duration of life, and must therefore be taken into consideration in the case of applicants for assurance. Statistics show that married people live, as a rule, longer

than single people. That this should be so is no more than was to be expected. In the first place, selection is in favour of the married, as the robust are more likely to marry than the delicate; secondly, if a man marries, the presumption is that he has some means; thirdly, the regularity of life, both as regards meals and sleep, has a beneficial effect; and lastly, matrimony is salutary from a physiological point of view. A further argument in favour of marriage is that the mortality of widowers who remain such exceeds that of those who re-marry. The only exception to the rule that married people have a better expectation of life than the single, is that in women the risk of the married is somewhat higher than that of the single during the child-bearing period.

Occupation.—The *occupation* of the applicant is oftentimes a decisive factor in the case. Take, for illustration, a man of bad family history as regards consumption, who is somewhat below weight, and not very robust looking, but otherwise healthy. If the applicant is a man whose occupation takes him constantly into the open air, as, for example, farming, the life might be taken, though possibly with an addition; whereas, if he is engaged indoors, as a clerk, or linen draper, the application is not so likely to be entertained, consumption being a disease *par excellence* of indoor occupations. On the

other hand, a man of sedentary habits whose heart is not quite sound, stands a better chance of being accepted for assurance than one who has to lead an out-door, active life. Clerks and business men generally constitute a very important class of assurers, as in many instances an assurance policy is the only provision that they can make for their family in the event of their premature death, so that a large number are to be found among the policy-holders of the various companies. They cannot be regarded as ideal lives. Dyspepsia is very common among them, owing to breakfast being hurried and followed by a rush to catch the train. The fear of being late keeps the nervous system in a state of constant tension. The luncheon of the struggling clerk is also an unsatisfactory meal, and he is tempted to relieve exhaustion by recourse to spirits. On the other hand, the successful man of business is inclined to make too good a mid-day meal, forgetting that when middle life is reached the demands on the system are so much diminished that less food should be taken. Both these classes, therefore, require to be accepted with caution. In considering the occupation of the applicant for assurance, the amount of mental strain or anxiety it involves should be borne in mind. Financiers, men on the Stock Exchange, and speculators are all subject to great strain, and are consequently liable to dyspepsia, degenerative

changes in vessels and kidneys, neurasthenia, apoplexy, insanity, and suicide.

There are certain occupations which exercise a very prejudicial effect on the lives of those engaged in them. Among these may be mentioned the liquor trade. Most assurance offices make a considerable addition, averaging about £1 per cent for a whole life policy, for all those who have anything to do personally with the manufacture or distribution of intoxicating liquids. An Endowment policy payable at fifty or fifty-five might be taken with half the extra. Some offices absolutely decline to assure publicans. The only safe course to pursue is to regard a publican as intemperate, until his temperance can be satisfactorily proved. Butchers, bakers, and plumbers also experience a high rate of mortality. Diabetes is said to be very common among locomotive engineers, the mortality reaching seven times that of the ordinary population. This tendency is probably due to the jarring of the system, the nervous strain, and the changes of temperature incidental to the occupation. According to Mr. Neison "the rate of mortality among the highest ranks of society exceeds that of the population at large, and the best average value—life value—and the greatest immunity from sickness are enjoyed by the industrious, provident workmen of the population, who are members of benefit societies."

Farmers and clergymen stand at the head of the list of long livers. Members of the legal profession are not so favourably situated as those last mentioned, but medical men come out the worst of the professions. This is clearly due to their disturbed nights, irregular meals, and exposure to infection and to all kinds of weather. Consumption is one of the few diseases to which they appear less inclined than the average individual; the amount of fresh air they inhale in going from house to house is probably the explanation of their immunity. Commercial travellers are not desirable risks; their hours are irregular, they have much temptation to smoke and drink too much, and they suffer from badly-prepared food. But almost any occupation is better than none at all, and it has been shown that the indolent rich are the shortest-lived of all classes. The whole subject of the effect of occupation on life has been exhaustively treated in Dr. Arlidge's work, "The Hygiene, Diseases, and Mortality of Occupations."

Athletes.—Some professional athletes, from the nature of their occupation, lead a life involving so much risk that they are not assurable. On the other hand, the ordinary amateur athlete who has been trained under careful supervision should be improved rather than injured by his course of training. The history of athleticism should lead the medical examiner to scrutinize

with the greatest care the condition of the heart and blood-vessels of the applicant.

Habits.—The question of *habits* is an exceedingly difficult one to get correctly answered. It is extremely desirable to get a definite reply as to the amount of alcohol the applicant consumes in the twenty-four hours. But in addition to the quantity, the character of the drink—malt liquors, wine, or spirits—and whether taken only at meal-times or between meals, and the time at which the first drink of the day is taken. The experienced examiner will usually, however, obtain more accurate information by attention to the state of the tongue and breath, the condition of the conjunctivæ, and the presence of tremor of the hands, and dilated capillaries of the cheeks, than by questioning the applicant. Should there be any suspicion of excess in drink, the application should be rejected. It must be borne in mind that reformed drunkards, even though they adopt and continue to practise total abstinence, are not good lives. The excess of past years has probably left its mark in degeneration of vessels, liver, and kidneys. In cases, therefore, of people who describe themselves as total abstainers, it is most important to know how long they have been so, and what their habits previously were. Supposing the applicant admits that in the past he has drunk freely, but that now he is a total abstainer, what period

of probation will be sufficient to admit him to the advantages of life assurance? It is impossible to lay down any definite rule as to the time which should elapse, but it must be a question of years rather than months. There should be no hereditary history of drink, the surroundings of the applicant should be favourable to temperance, and he should be under fifty. Indeed, the reason for total abstinence should be enquired into, as it may be due to the knowledge of an hereditary taint, or of the existence of some physical condition, which is not conducive to longevity. Applicants who have fallen victims to any of the drug habits, such as morphine or cocaine, are quite unassurable, and even if they have entirely relinquished the habit, the risk of relapse is too great to allow of their acceptance.

It is well also to make some enquiry as regards the amount of exercise taken. The typical man about town, who takes but little exercise, and who eats and drinks more than is good for him, is not a satisfactory candidate for assurance.

Up to the present it has not been usual to question the applicant as regards the quantity of tobacco he smokes, but in view of the great increase in the consumption of tobacco since the introduction of the cigarette, it appears advisable that some enquiry should be made. If the applicant is tremulous or suffers from tachycardia, the

possibility of the dependence of these conditions on tobacco smoking should be remembered. Cancer of the lip, tongue, and throat is certainly more prevalent among smokers than non-smokers; so that excessive smoking, with a family history of cancer, should suggest caution in accepting a life for assurance.

Residence.—In many diseases, but especially in tuberculosis, the question of the residence is of vital importance. Dr. Poore has pointed out that "Mortality is proportionate to density of population, and the extra risk of dying shadows the man who works and lives in a crowded city through the whole working period of life." From this it follows that where there is an inherited tendency to tuberculosis, or in applicants who have had chest trouble in the past, the acceptance or rejection of the proposal will largely depend upon his residence. An applicant who presented some unfavourable features in his family or personal history might be accepted if he resided in the country, whereas residence in a crowded city would turn the scale against him. Owing to the wandering life led by so many people now-a-days, the residence of the applicant for assurance is not of much importance, except as regards residence in tropical or very unhealthy climates. If the applicant has lived in a hot climate, particular attention should be paid to the condition of the liver and spleen, and enquiry

made as to the history of dysentery in the past. The result of Mr. P. Tait's elaborate investigation of all the available facts is, that the value of life amongst Europeans in India has improved, is improving, and that this amelioration is likely to continue. For the present, however, the returned Indian cannot on the average be deemed so good a life as a man who has not lived out of Europe. He is for the most part older than his years, and though many exceptions may be adduced, it will not be wise to take too optimistic a view of his prospects; and any adverse features in his family or personal history, or medical examination, should receive more attention than they would otherwise attract. In doubtful cases an extra should be put on. The map, which will be found at the commencement of the book, will indicate with sufficient accuracy the usual rating adopted for foreign residence, though offices vary somewhat in their treatment of applicants who propose to live out of Europe. For those who intend to reside in the region coloured blue an additional premium of £1 per cent is exacted; in the region coloured yellow the extra is 10*s.* per cent. The free limits are coloured red, and it will be noticed that all South Africa south of the Zambesi River is comprised within the free limit. The dangerous zone is between 33° north and 30° south of the Equator. The uncoloured part of the

map, which includes Central Africa and the West Coast, is so notoriously unhealthy, and in the past assurance companies have lost so heavily, that most offices now refuse to accept for assurance applicants who propose to take up their residence in this region, but it is to be hoped that before long they will re-consider the matter. By the careful selection of applicants, and especially by rejecting all under twenty-five years of age and those over thirty-five, it would be possible to recommend picked applicants for assurance, but the extra premium would have to be high. About £3 to £4 per cent per annum for the less unhealthy and £6 to £7 per cent per annum for the more unhealthy localities have been suggested as the very least addition that could be prudently made.

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After a careful examination of the applicant, and a consideration of his condition from the various points of view which have been described above, the medical examiner will have to sum up the evidence for and against the assurance of the life in question. In making the recommendation it is well to bear in mind the applicant's expectation of life. A rough and ready, but at the same time tolerably accurate rule for arriving at this is that given by Walford. Between the ages of twenty and forty-five use the *fixed* number 96; deduct the present age of the person whose

expectancy you desire to know from this number, and half of the remainder will give the expectancy. Between twenty and thirty the result will hardly come up to the average, and over forty it is slightly in excess. For ages above forty-five take 90 as the fixed number, and proceed as before.

The following table will show the years and decimal parts of a year that persons at each age may be expected to live, according to the healthy male table, deduced from the mortality experience of Life Assurance Companies.

Age	Expectation of Life	Age	Expectation of Life	Age	Expectation of Life
15	46·161	25	38·405	35	31·016
16	45·292	26	37·658	36	30·286
17	44·438	27	36·908	37	29·560
18	43·609	28	36·162	38	28·838
19	42·817	29	35·419	39	28·118
20	42·061	30	34·681	40	27·399
21	41·326	31	33·946	41	26·679
22	40·603	32	33·213	42	25·956
23	39·879	33	32·481	43	25·233
24	39·147	34	31·748	44	24·511

Age	Expectation of Life	Age	Expectation of Life
45	23·792	55	16·962
46	23·079	56	16·316
47	22·375	57	15·679
48	21·679	58	15·052
49	20·989	59	14·435
50	20·306	60	13·830
51	19·627	61	13·237
52	18·951	62	12·659
53	18·281	63	12·095
54	17·618	64	11·547

FEMALE LIVES.

The increasing number of women who are earning their livelihood by their own exertions must of necessity tend to increase the number of women who apply for assurance, and therefore some remarks upon female lives may be useful. The expectation of life is about three years more in females than in males, taking the population generally. Up to the present time, however, the records of assurance offices do not place female lives in as favourable a position as their prospects of life would seem to entitle them to. No satisfactory explanation of this anomaly is forthcoming. Possibly the medical examination is not carried out with the same thoroughness in women as in men. In this connection it must be borne in mind that about 6 per cent of the deaths of women arise from diseases of the breast or uterus, *i.e.*, organs which are very likely to be passed over in examination for assurance as ordinarily carried out. To obviate this risk an opportunity should be taken of palpating the breasts while the chest is being examined, and if any hardening is detected, the applicant should be either referred for six months or rejected. If there be any suspicion of pelvic mischief, an abdominal examination should be made, unless the applicant be prepared to furnish a certificate from her own medical attendant that she is free from disease. In addition to the

drawback which arises from the want of a thorough examination, and the inability to detect latent disease in the pelvic organs, there is an increased moral hazard in female lives. Up to the present, in the majority of cases women are assured under a nominee policy; and it is notorious that the lives of those assured under a nominee policy are not so good as the lives of those who take out a policy on their own lives. Of course, if a woman who is a wage-earner is taking out a policy in her own name, there is nothing to be said against her being treated on the same terms as a male, but the examination of a female applying for a nominee policy requires to be carried out with extra care, and if any difficulty is experienced in making the necessary examination, this should be reported to the chief medical officer. Up to the age of forty-eight the female must be regarded as slightly inferior to the male applicant; after forty-eight the converse holds good. That is to say, during the reproductive period of life the risks incidental to parturition are more than sufficient to balance the greater sobriety of, and the quieter life led by, the female as compared with the male applicant. When, however, the menopause has arrived, then the female asserts her greater healthiness over the male. Whether this superiority will continue if women are subjected to the strain of business life, yet remains to be seen.

Child-bearing.—As regards the risk of child-bearing, Dr. Matthews Duncan's statistics show that it is much greater in primiparæ than in multiparæ, the death-rate being 1 in 74 in the former against 1 in 123 in the latter. It is therefore not advisable to recommend for assurance a woman who is pregnant for the first time, until after her safe confinement. The rate of mortality rises again after repeated confinements, *i.e.*, eight or nine. Some authorities advise the postponement of all pregnant women and those recently married until after the first confinement. Those offices which accept pregnant applicants exact an additional premium varying in amount from £3 3*s.* to 10*s.* per cent single premium. In this respect it must be remembered that young mothers aged less than twenty years and those who have married late in life have a larger mortality from child-birth than women between twenty and thirty-five years of age. Many authorities advise that an addition should be made to the premium in female lives during the period of child-bearing, to be remitted afterwards. The history of repeated miscarriages, of puerperal hæmorrhage, and of eclampsia, requires rejection, as does also any pelvic deformity which has necessitated obstetrical operations in the past.

Rickets.—A disease which is of comparatively little importance in the case of male applicants for assurance, is a very serious matter in women

during the child-bearing age. Hence the signs of marked rickets should suggest the existence of pelvic deformity, and consequent rejection of the applicant, if she is still within the child-bearing period.

Heart Disease.—For the influence of heart disease in women, *see* p. 59.

Tuberculosis.—A family history of tuberculosis is more dangerous in the case of female lives than in males, on account of the additional risk of consumption attacking them after parturition.

Diseases of Pelvic Viscera.—Women who have suffered from pelvic inflammation, metritis, or disease of the ovaries, are not eligible for assurance, at all events until after the menopause. As regards women who have undergone operations for removal of ovarian tumours or fibroids of the uterus, each case must be taken on its own merits. No case of the kind should be accepted within four years of the operation, and an addition will certainly be needed. In all cases in which abdominal section has been performed, there is a liability to ventral hernia and consequent risk of strangulation. No woman should be accepted who is suffering from a profuse leucorrhœa. She may honestly regard it as of little or no importance, but if resulting from infection, it may extend beyond the uterus and cause a pyo-salpinx and all its possibilities of danger. This liability to infection of the genital tract

in the female without giving rise at the time to undue distress, is one of the risks involved in accepting female lives.

Insanity.—The history of puerperal insanity has not the adverse effect of other forms of insanity, as recovery takes place in upwards of 70 per cent of the cases, and a fatal termination does not occur in more than about 8 per cent. In the absence of a family history of insanity, a woman might be taken for assurance who had suffered from puerperal insanity, with a considerable addition if she were still within the child-bearing period, but at the ordinary rate after the menopause.

Height and Weight.—From the subjoined table it will be seen that on comparing it with the table given on p. 46, women weigh rather less than men up to 5 feet 7 inches. If they attain a greater height than this their weight may even exceed that of men.

Height		Standard Weight		Height		Standard Weight	
ft.	in.	st.	lbs.	ft.	in.	st.	lbs.
4	10	7	0	5	3	8	9
4	11	7	4	5	4	9	2
5	0	7	7	5	5	9	9
5	1	7	12	5	6	9	13
5	2	8	2	5	7	10	8
				5	8	11	4

It must be remembered that after the cessation of the catamenia, women tend to put on flesh much more commonly than men of the same age. As in men, a margin of 15 per cent in either direction is admissible, but women seem to stand a greater excess in weight than men do without impairment of health, so that a woman 25 per cent above the standard is in quite as good a position as a man 20 per cent above the standard.

Albuminuria.—In testing the urine of women, the possibility of traces of albumen being due to a leucorrhœal discharge must be remembered.

Hernia.—There seems to be an additional element of danger in the case of females suffering from hernia, as compared with males, though as a rule the more sedentary life they lead should have a favourable effect. It is therefore desirable to load the life with an extra of two or three years.

SELECTION OF AN OFFICE.

Form of Policy.—To no class of the community is Life Assurance more important than to the general practitioner; as a rule, he has nothing but his own exertions on which to depend, and not infrequently he has had to contract a loan in order to make a start. Moreover, the feeling of the community at large is so much in favour of employing a married doctor, that interest and

inclination will probably induce him to marry early. All these are reasons why he should assure his life. But he can hardly expect to be taken on more favourable terms than the general bulk of the population, as statistics show that the medical profession compares unfavourably, as regards the expectation of life, with other professions; in fact, it takes quite a high place in the table of comparative mortality. Having agreed, then, that there are special reasons for medical men to assure, it remains to determine the most suitable *form of policy* for their varying needs, and the office to which they should apply. At the commencement of a medical man's career he is likely to be considerably hampered as regards means; it is therefore advisable that the premium paid should be the lowest compatible with the choice of a safe office. One way of meeting the difficulty adopted by some offices is the *Half Premium system*. By this plan half the premium is paid during the first five years; at the end of this the full premium, plus a sum sufficient to cover the deficiency on the first five years. The following figures, taken from the prospectus of one of the leading companies, will explain the matter better than any verbal description. Supposing a man of twenty-five wishes to assure £100 at death with profits, the premium for the first five years would be £1 2s. 6d.; and after that time, for

the remainder of life, £2 12s. 3d., as against £2 8s. 1d. for an ordinary whole life policy with profits.

The plan adopted by another office is that of the *Reduced Annual Premium*, under which the assured is called upon to pay only four-fifths of the ordinary annual premium. The remaining one-fifth is allowed to remain as a debt on the policy at 5 per cent interest, to be discharged in whole or in part, as circumstances will admit, by allotments of bonus, such allotments being precisely the same as if the full premium had throughout been paid.

A third plan is the *Deferred Profit tables*, under which the benefit of a low premium is secured with ultimate good profits after the average duration of life.

By taking out policies of the above described character, a medical man may make provision for the £500 or £1000 which he requires in starting practice, or when he marries; but there comes a time for most men when they are in a position to make a more ample provision for the future.

Three classes of assurance are becoming increasingly popular, viz., *Policies in which the premiums are distributed* over a limited number of years; *Endowment Assurances*; and *Investment Policies*.

In the first class it can be arranged to pay the premium for a limited number of years,

and then to cease, the policy being payable at death. This is an excellent plan for a man in good practice who wishes to assure to the best advantage, and who realizes that as his children grow up his expenses will increase, and that it will be a great relief if he can pay off the premium in a fixed number of years. Naturally, the payments are heavy. At the age of thirty the premium for £100 in eleven payments amounts to £4 12s. 10d.; in twenty-two payments, £2 19s. 1d.; in twenty-eight payments, £2 9s. 3d. (in all three cases the profits are deferred) as against £2 13s. 5d. for a whole life policy; but then the assurer will have the satisfaction of knowing that at the end of eleven, twenty-two, or twenty-eight years his payments cease.

If the medical man has no family, or has already provided for them, the *Endowment Plan* of assurance offers a ready method of making provision for old age, or for a time when there is a probability of a diminution in professional receipts. For a man of thirty, who wishes to secure £100 with profits at the age of sixty-five, or previous death, the premium is £3 2s. 2d. This method of assurance is being largely adopted. It has two great advantages: one is, that the number of payments is limited; the second is that the assured, if he lives to the stated age, will have the disposal of the money, so that if he should by chance be then in necessitous

circumstances, he would have something to fall back upon.

Lastly, the *Investment Policy* deserves attention. This is a system under which a limited number of premiums is paid, and every premium secures a fixed and definite benefit (according to table), so that the payments may be discontinued at any time without forfeiture.

Choice of Office.—To give advice as to the choice of an office is a matter of some delicacy. It may at once be frankly stated that all the offices enumerated on pages 104-107 have their warm adherents, and it would consequently be impossible to recommend any particular office without doing grave injustice to the others. The accounts which, under the provisions of the Life Assurance Companies' Acts, all life assurance institutions in the United Kingdom are compelled to issue, furnish a ready means of forming a fairly accurate estimate of the financial status of each office. But these accounts, although very simple to those accustomed to them, are of little use to men who have no experience in examining and comparing statements of this description. In the annual "Revenue Account," however, will be found a statement of the amount expended for "Management," "Commission," &c. The total of these items, when compared with the *premium income* of the year, will show the actual cost of carrying on the business, or

the *expense ratio*, and this is one of the most important points to be considered in estimating the relative merits of life assurance offices. Two great divisions of assurance offices may be made, viz., the Mutual and the Proprietary. The tendency at the present day is certainly in favour of the former; nevertheless, the latter possess an element of stability in the shareholder's capital, which is wanting in the former. On the other hand, in the Mutual offices, as there is no shareholders' capital requiring interest, the assured receive the whole of the profits; so that in regard to these two classes there is something to be said in favour of each. Most men will solve the difficulty as to choosing the best office, by not putting all their eggs into one basket, but will distribute their assurances over two or more offices.

One assurance society, which occupies an unique position in relation to the medical profession, may be mentioned by name; this is the Medical Sickness, Annuity and Life Assurance Society, which is an assurance society against sickness and accidents, and provision can also be made for life assurance and annuity. Membership of the society is limited to registered members of the medical profession and licentiates of dental surgery residing in the United Kingdom. For an annual payment of £6 7s. a man of twenty-five can secure £4 4s. per week during incapacity,

whether caused by sickness or accident. The full amount of sick pay is payable for the first six months of protracted illness, and one-half the full sick pay for the remainder of the same attack. All sick pay and premiums cease at age sixty-five. This is a mutual society started by medical men for medical men; it is most economically and efficiently managed, the expense of management amounting to somewhat less than 5 per cent of the premium income; it therefore deserves the warmest support of the medical profession. It has already proved of the greatest benefit to a large number of members, and much anxiety and distress would be prevented if all men engaged in general practice joined the Society. The large reserves accumulated by this Society show that assurance against the loss caused by sickness or accident may be secured by the payment of a moderate rate of premiums.

And here it may not be out of place to direct attention to the Society for Relief of Widows and Orphans of Medical Men. This Society occupies a position intermediate between that of an assurance company and a charitable institution. Any person duly registered under the Medical Act, and resident within a radius of twenty miles from Charing Cross, is qualified to be proposed for election as a member of the society. The widow of a member who has no

certain income or provision exceeding the yearly value of £80 is eligible to receive such relief from the Society as the Court of Directors shall determine. The maximum allowance is £50 a year for the widow, and £12 a year for each child under sixteen years of age. The annual subscription is £2 2s.

Form for Medical Examination.

CONFIDENTIAL

You are particularly requested not to give the Applicant any information whatever as to the result of your examination.

MEDICAL EXAMINER'S REPORT FOR LIFE ASSURANCE.

INFORMATION TO BE OBTAINED FROM APPLICANT.

I. Name .. .. Age next Birthday ..

Occupation .. Single or Married ..

	LIVING.		DEAD.	
	Ages.	State of Health.	Ages.	Cause of Death.
FATHER ..				
MOTHER ..				
BROTHERS ..				
SISTERS ..				

The Medical Examiner is particularly requested to obtain precise information as to the Cause of each death. *Such terms as "Child-birth," "Dropsy," "Natural Causes," "Change of Life," etc., should be avoided.*

II. Have any of your near relations *suffered from* cancer, consumption, gout, or insanity? If so, give particulars.

III. What is the present and general state of your Health?

IV. From what Diseases, and from whom have you required professional assistance? When were you last ill?

V. Have you suffered, and if so, how often and when, from

(*a*) Giddiness, fits, paralysis, insanity? (*a*)

(*b*) Blood-spitting, asthma, or any affection of the lungs? (*b*)

(*c*) Faintness, palpitation, dropsy? (*c*)

(*d*) Jaundice, rupture, piles, or fistula? (*d*)

(*e*) Any affection of the kidneys or bladder, or from stricture? (*e*)

(*f*) Gout, rheumatism, fever or ague? (*f*)

(*g*) Deafness, or discharge from the ear? (*g*)

(*h*) Varicose veins, tumour, or accident? (*h*)

VI. Have you resided in a hot climate? If so, state where.

VII. Are your habits active or sedentary?

VIII. What quantity and kind of Stimulants do you usually take daily?

IX. Are there any Special Circumstances known to yourself which might affect the risk of an Assurance on your life?

X. In the case of a Female:—

Past and present state of uterine functions.

Nature and number of confinements.

Date 190 (*Signature of Applicant*)

in presence of (*Signature of Examiner*)

CONFIDENTIAL REPORT BY MEDICAL EXAMINER

on the life of

1. What personal and professional knowledge have you of the Applicant?
2. General Appearance and Development.
3. Does his appearance correspond with the stated Age? Is there any evidence of strumous disease?
4. From the appearance of the Applicant do you suspect past or present Intemperance?

Height Weight { Stationary / Increasing / Decreasing

5. MEASUREMENTS.

Naked Chest at nipple line (in males). In Inspiration In expiration

Abdomen at umbilicus (in males).

6. CIRCULATION.

Are the sounds of the heart normal?

Is the heart natural in size, position, and impulse?

What is the condition of the Blood Vessels?

Pulse. Rate Quality

7. RESPIRATION.

Is the chest well formed, and does it expand fully and equally on inspiration?

Do you, as a result of physical examination, detect any signs of consumption or other diseases of the organs of respiration?

8. DIGESTION.

What is the result of your examination of the abdomen and its viscera?

State of tongue and of digestive functions.

If a Hernia be present, state its nature, and whether a properly adjusted truss is worn.

9. GENITO-URINARY SYSTEM.

Is there any evidence of disease of the bladder, or kidney, or of stricture, or syphilis (past or present)?

What is the result of your examination of the Urine?

Reaction Sp. grav.

Albumen Sugar

10. NERVOUS SYSTEM.

Is there any evidence of disease of the brain, spinal cord, or nerves.

11. Is there any additional statement you think it desirable to make concerning the Proposal?

Do you consider this Life as First Class, Average, Doubtful or Bad?

Date *Signature of Examiner*

Where Examined

DR. LESLIE OGILVIE'S TABLE OF THE CLASSIFICATION OF ASSURANCE LIVES, WITH ILLUSTRATIVE TYPES.

		Ai	A	A	B	B	B	C	C	C	D	D	D	D	D
PERSONAL HISTORY	20%	+	+	−	−	+	++	−	+	+	=	+	+	++	++
FAMILY HISTORY	20%	+	−	++	−	+	−	−	+	++	++	++	+	≡	++
PHYSICAL EXAMINATION	30%	+	+	+	+	=	+	+	−	−	=	≡	+	+	+
PERSONAL APPEARANCE	20%	+	++	+	++	+	−	+	−	=	+	+	+	+	≡
ENVIRONMENT	10%	+	+	+	+	++	+	+	+	+	+	+	≡	++	+
		(ORDINARY RATES)			(SMALL EXTRA PREMIUM)			SUBSTANTIAL EXTRA PREMIUM)			(NOT ELIGIBLE)				

NOTE EXPLANATORY OF TABLE.

The *plus* and *minus* signs indicate the value attached to the information recorded under each head in any individual case.

The *plus* sign indicates that this information is averagely favourable.

The *double plus* that it is above the average.

The *minus* that it is below the average.

The *double minus* that it is considerably below the average.

The *treble minus* that the record is extremely bad.

In *Class Ai* nothing less than a plus is recorded under each head.

In *Class A* a minus under one head is counterbalanced by a double plus under another head.

In *Class B* there is one minus not counterbalanced.

In *Class C* there are two minus records not counterbalanced.

In *Class D* there are three minus signs not counterbalanced, or there is a treble minus under one head.

INDEX TO LIFE ASSURANCE OFFICES.

A, *when Established;* B, C, D, *Annual Premiums to Insure £100 on death with Profits, at the age of* 30, 40, *and* 50; E, *Assurance and Annuity Funds, exclusive of Paid-up Capital.* M, *Mutual Offices;* P, *Proprietary Offices.*

Those marked with an asterisk (*) in the E column have not sent revised figures for 1902.

Title, &c., of Office.	A	B	C	D	E
					£
Abstainers and General, Life and Accident, Carrs Lane, Birmingham. *Sec.*, R. A. Craig, A.I.A. P	1883	40/11	55/10	82/3	215,000
Alliance, Fire and Life, Bartholomew Lane, E.C. *Gen. Man.*, Robert Lewis .. .. P	1824	48/9	64/5	90/9	6,535,913
Atlas, Fire & Life, 92. Cheapside, E.C. *Act.*, Robert Cross. *Sub. Man.*, A.W. Yeo. *Gen. Man.*, Saml. J. Pipkin. .. .. .. P	1808	49/3	63/7	88/8	1,725,013
British Empire, Mutual Life, 4 & 5, King William Street, E.C. *Gen. Man.*, G. H. Ryan, F.I.A. M	1847	47/2	63/9	92/3	3,100,000
British Equitable, Life, Queen St. Place, E.C. *Man.*, J. W. Fairey .. .. P	1854	49/-	66/-	94/3	1,748,079
British Workman's and General, Life and Endowments, Broad Street Corner, Birmingham. *Chairman*, F.T. Jefferson, J.P. *Sec.*, S. J. Port, F.I S. P	1866	46/2	62/1	89/6	744,889
Caledonian, Fire and Life, 19. George Street, Edinburgh. *Gen. Man.*, D. Deuchar. London Offices, 82, King William Street, E.C. & 14 Waterloo Place, S.W. .. .. P	1805	48/9	64/6	88/6	1,949.847
City of Glasgow, Life, 30, Renfield Street, Glasgow. *Gen. Man.*, William S. Nicol. London Office, 12, King William St., E.C. *Lon. Man.*, J. D. Milne P	1838	49/6	64/6	89/10	2,516,591
Clergy Mutual, Life, 2 & 3, Sanctuary, Westminster. *Act. & Man.*, F. B. Wyatt. *Sec.*, W. N. Neale. M	1829	46/4	62/2	87/4	4,071,836
Clerical, Medical and General, Life, 15, St. James' Square, and Mansion House Buildings. *Act.*, W. J. H. Whittall .. .. .. P	1824	48/7	66/9	96/3	3,830,792
Colonial Mutual, Life and Annuity, 33, Poultry. *Man.*, Edward W. Browne .. .. M	1873	47/4	63/2	89/9	2,595,869
Commercial Union, Fire, Life and Accident 24, 25, and 26, Cornhill, E.C. *Act.*, A. D. L. Turnbull P	1861	49/5	64/2	87/8	2,466,388
Co-operative, Life, Fidelity, and Fire, Long Millgate, Manchester. *Sec.*, James Odgers. .. P	1867	45/8	61/5	88/4	32,489
Eagle, Life, 79, Pall Mall, S.W. *Gen. Man.* and *Sec.*, Geo. R. Jellicoe .. .. .. P	1807	50/8	65/5	91/4	2,368,246
Economic, Life, 6, New Bridge Street, Blackfriars. *Act.* and *Sec.*, G. Todd, M.A., F.I.A. M	1823	44/4	59/6	85/5	4,190,056
Edinburgh, Life, Endowments, and Annuities, 22, George Street, Edinburgh. *Man.*, A. Hewat, F.F.A., F.I.A. *Sec.*, T. M. Gardiner. London Office, 11, King William St., E.C. *Sec.* F. Griffith P	1823	47/7	63/2	89/-	3,662,466
English and Scottish Law, Life, Annuity, Endowment, and Loan, 12, Waterloo Place, S.W. *Gen. Man.*, Albert G. Scott .. .. .. P	1839	49/6	65/2	90/11	2,379,111
Equitable Life Assurance Society, Mansion House Street, E.C. *Act.*, H. W. Manly, F.I.A. M	1762	53/5	67/11	90/7	4,733,228
Equity and Law, Life, 18, Lincoln's Inn Fields, W.C. *Act.*, A. F. Burridge, F.I.A. .. .. P	1844	48/10	64/6	90/9	3,692.564
Friends' Provident, Life, Annuities, &c., Bradford, Yorkshire. *Act.* and *Sec.*, John Bell Tennant. M	1832	48/-	64/-	89/7	3,014,000
General Life, 103, Cannon Street, E.C. *Man.* and *Sec.*, John Robert Freeman. .. P	1837	49/10	65/4	92/8	1,840,148

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Title, &c., of Office.	A	B	C	D	E
					£
Gresham, Life, St. Mildred's House, E.C. *Man.* and *Sec.*, James H. Scott .. P	1848	49/-	65/8	94/3	7,798,549
Guardian, Fire, Life, Accident and Burglary 11, Lombard St., E.C., and 21, Fleet Street. *Sec.*, T. G. C. Browne.. .. .. .. P	1821	48/10	64/6	89/3	3,034,453
Hand-in-Hand Fire, Life and Annuities, 26, New Bridge Street, E.C. *Sec.*, H. H. Ray .. M	1696	54/8	71/3	98/-	2,965,499
Mutual Life Assoc. of Australasia, 5, Lothbury, Bank, E.C. *Sec.*, Alfred Gilbert	1869	47/-	63/-	91/-	1,537,693
Law Life, 187, Fleet Street. *Man.*, E. H. Holt. *Act.*, A. B. Adlard .. .. P	1823	49/4	64/10	91/-	3,952,137
Law Union & Crown, Life, Fire, Accident & Annuities, 126 Chancery Lane. *Gen. Man.*, A. Mackay P	1825	48/4	64/-	89/10	4,050,928
Legal and General Life, 10, Fleet Street, E.C. *Act.* and *Man.*, E Colquhoun ... .. P	1836	50/9	65/11	90/9	3,711,000
Life Association of Scotland, 82, Prince's Street, Edinburgh. *Man.*, John Turnbull Smith. *Sec.*, J. Sharp. London Office, 5, Lombard Street. *Sec.*, J. C. Wardrop .. .. P	1838	50/-	65/4	93/4	5,100,124
Liverpool and London and Globe, Fire, Life and Annuities, 1 Dale St., Liverpool. *Gen. Man. & Sec.*, John M. Dove. London Office, 7, Cornhill, E.C. *Act. & Rest. Sec.*, A. Hendriks, F.I.A. P	1836	49/3	65/6	91/3	5,562,523
London and Lancashire, Life, 66 & 67, Cornhill, E.C. *Gen. Man. & Act.*, W. P. Clirehugh. *Sec.*, G. W. Mannering .. .. P	1862	46/10	62/4	86/10	1,609,502
London Assurance Corporation, Fire, Life and Marine, 7, Royal Exchange. *Man.* of Life Dept., James Clunes. *Act.*, Geo. King .. P	1720	49/6	64/11	91/5	2,145325,
London, Edinburgh and Glasgow, Life, Industrial, and Accidents, Farringdon Street, E.C. *Sec.*, T. V. Cowling. *Gen. Man.*, Thos. Neill P	1881	48/11	64/7	92/-	392,496
London Life Association, Lim., 81, King William St., E.C. *Act.* and *Sec.*, C. D. Higham, F.I.A. M	1806	60/4	78 10	108/4	*4,560,570
Marine and General Mutual, Life and Marine, 14, Leadenhall St., E.C. *Act.* and *Sec.*, S. Day, F.I.A. . .. . M	1852	48/10	65/11	91/11	1,100,728
Metropolitan Life, 13, Moorgate St., E.C. *Sec.*, B. Woods .. .. M	1835	49/9	66/4	92/-	*2,028,924
National Assurance of Ireland, Fire, Life, and Annuities, 3, College Green, Dublin. London Office, 47, Cornhill, E.C. .. P	1822	48/7	64/3	91/7	*360,762
National Mutual Life, 39, King Street, Cheapside, *Act.* and *Man.*, Geoffrey Marks, F.I.A. *Joint Secs.*, H. G. Rowsell and H. J. Lockwood. *Asst. Act.*, A. Levine, M.A., F.I.A. .. .. M	1830	48/4	63/7	89/6	2,603,797
National Provident, 48, Gracechurch Street, E.C. *Act.* and *Sec.*, Arthur Smither .. .. M	1835	50/2	66/3	91/1	5,738,115
New York Life, Trafalgar Buildings, Trafalgar Square, London, W.C. *Gen. Man.*, C. Seton Lindsay. *Sec.*, Wm. R. Collinson, F.C.I.S. M	1845	48/9	66/-	96/11	68,000,000
North British & Mercantile, Fire, Life & Annuities, 61, Threadneedle Street, E.C., and 64, Princes Street, Edinburgh. *Life Man.* and *Act.*, London H. Cockburn, *Sec.*, F. W. Lance. .. P	1809	49/10	66/1	91/11	12,339,64
Northern Assurance, 1, Moorgate St., E.C. *Gen. Man.*, H. E Wilson .. .. P	1836	49/-	64/8	90/10	4,001,730
Norwich Union, Life, Norwich. *Gen. Man.* and *Act.* J. J W. Deuchar. London Office, 50, Fleet Street, E.C.	1808	45/8	59/6	85/3	4,422,426

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Title, &c., of Office.	A	B	C	D	E
					£
Patriotic Life, Fire, Accident, Employers' Liability, Fidelity Guarantee, and Burglary, 9, College Green, Dublin. *Man.*, B. H. O'Reilly. *Act.*, Saml. Hunter. London Office, 69, King William Street, E.C. *Man.*, Charles E. Strong .. P	1824	48/8	64/5	90/4	*253,036
Pearl, Life, London Bridge, City, E.C. *Man.*, P. J. Foley .. .. P	1864	49/-	65/-	92/-	1,394,109
Pelican, Life, 70, Lombard Street, 57, Charing Cross, *Gen Man.*, James Sorley, F.I.A., F.R.S.E. P	1797	48/11	64/7	90/8	1,426,331
Provident Clerks Mutual Life Assurance Association, 27 and 29, Moorgate Street, E.C. *Sec.*, John E. Gwyer.. .. .. M	1840	46/4	62/8	92/2	2,200,000
Provident, Life, 50, Regent St. *Sec.*, H.W. Andras P	1806	49/5	64/6	90/2	3,354,591
Prudential (Ordinary), Life, Holborn Bars. *Sec.*, D. W. Stable. .. .. P	1848	49/6	65/11	91/11	*20,879,584
Refuge, Life, Oxford Street, Manchester. *Joint Mans.*, Jas. Proctor & R. Wm. Green. London Office, 29, New Bridge Street .. .. P	1864	49/3	65/9	91/9	2,094,292
Rock, Life, Annuity, Capital in Redemption, Workmen's Compensation, Accident, Guarantee and Burglary, 15, New Bridge Street, E.C. *Act.*, G. S. Crisford, F.I.A. .. .. .. P	1806	42/5	55/11	81/2	2,281,145
Royal, Fire, Life and Annuities, Royal Insurance Buildings, Liverpool. *Man.*, Chas. Alcock. London Offices, Lombard St. *Sec.*, Jno. H. Croft P	1845	49/9	64/1	88/3	8,047,268
Royal Exchange Assurance, Fire, Life, Annuities, &c., Royal Exchange, and 29, Pall Mall. *Act.*, H. E. Nightingale, F.I.A. .. . P	1720	49/2	64/10	90/1	2 715,220
Sceptre, Life and Endowments, 40, Finsbury Pavement, E.C. *Sec.*, J.G. Phillips.. .. P	1864	48/8	64/8	90/6	904,824
Scottish Amicable, Life, St. Vincent Place, Glasgow. *Man.*, N. B. Gunn. *Sec.*, W. G. Spens M	1826	51/9	66/3	90/1	4,283.063
Scottish Equitable, Life, 28, St. Andrew Square, Edinburgh. *Man.*, G. M. Low, F.F.A. *Joint Secs.*, J. J. McLauchlan and D. Y. Mills. London Office, 19, King William Street, E.C. *Sec.*, F. R. Leftwich. M	1831	50/3	65/5	90/9	4,708,190
Scottish Imperial, Life, 183, West George Street, Glasgow. *Man.* and *Act*, James Stirling, F.F.A. London Office, 15, King William Street, E.C. P	1865	46/7	63/5	91/7	567,338
Scottish Life, Life, Accident and Annuities, 19, St. Andrew Square, Edinburgh. *Man.*, David Paulin, F.R.S.E. London Office, 13, Clements Lane, King William Street, E.C. *Sec.*, George Struthers P	1881	49/5	64/6	90/5	659.793
Scottish Metropolitan, Life, 25, St. Andrew Square, Edinburgh. *Man.*, H. E Marriott. London Office, 8, King Street, E.C. *Man.*, C. E. M. Hudson. P	1876	40/8	54/7	79/7	537,981
Scottish Provident, Life and Annuities, 6, St. Andrew Square, Edinburgh. *Man.*, J. G. Watson. *Secs.*, J. Lamb and H. R. Cockburn. *Act.*. W. G. Walton. London Office, 17, King William Street, E.C., and 17, Pall Mall, S.W. .. .. M	1837	42/4	56/6	83/2	12,200,000
Scottish Temperance, Life and Accident, 105, St. Vincent St, Glasgow. *Man.*, Adam K. Rodger. London Office, 96, Queen Street, Cheapside. *Man.*, W. A. Bowie .. .. P	188	48/6	63/9	89/10	666,503
Scottish Union and National, Fire, Life, and Annuities, 35, St. Andrew Square, Edinburgh. *Sec.*, J. K. Macdonald. London Office, 3, King William Street, E.C. *Sec.*, William G. Glennie. P	1824	50/-	65/-	90/-	4,056,83
Scottish Widows' Fund, Life and Survivorship, 9, St. Andrew Square, Edinburgh. *Man. & Act.*, A. H. Turnbull. *Sec.*. J. J. P. Anderson. London Office, 28, Cornhill, E.C. *Sec.*, J. W. Miller M	1815	51/9	66/3	90/7	15,839,426

A, *When Established;* B, C, D, *Annual Premiums to Insure £100 on death with Profits, at the age of* 30, 40, *and* 50; E, *Assurance and Annuity Funds, exclusive of Paid-up Capital.* M, *Mutual Offices*; P, *Proprietary Offices.*

Title, &c., of Office.	A	B	C	D	E
					£
Standard Life, 3, George Street, Edinburgh. *Man.* and *Act.*, S. C. Thomson. London Offices, 83, King William Street, and 3 Pall Mall East. *Sec.*, J. H. W. Rolland .. .. .. P	1825	48/11	64/5	89/-	9,926,311
Star, Life, Annuities, Endowments, 32, Moorgate Street, City. *Act.* and *Sec.*, H. G. Hobson P	1843	48/9	64/11	90/6	5,358,574
Sun, Life, 63, Threadneedle Street, E.C. *Act.*, R. Sewell. *Sec. & Gen. Man.*, E. Linnell. P	1810	49/2	66/6	94/2	4,712,278
Union, Fire and Life, Cornhill, and Baker Street. *Sec.*, C. Darrell. *Gen. Man.*, J. Powell. *Act.*, I. K. Pogden .. .. P	1714	48/9	64/6	90/10	2,795,420
United Kingdom Temp., &c., Life, 1, Adelaide Place, London Bridge. *Sec.*, Johnson Brooks M	1840	48/10	64/11	50/6	7,400,000
University, Life, 25, Pall Mall, S. W. *Act. & Sec.*, R. Todhunter, M.A. .. .. .. P	1825	49/11	65/4	91/5	942,474
Victoria, Life and Endowment, Memorial Hall Buildings, Farringdon Street, E.C. *Sec.*, Arthur J. Cook, A.I.A. .. .. .. M	1860	49/3	65/7	93/-	112,698
Wesleyan and General, Life, Annuities, Sickness, Corporation St., Birmingham. *Gen. Man.*, R. A. Hunt, F.S.S., A.I.A. London Office, 101, Finsbury Pavement, E.C. .. .. .. M	1841	48/9	66/6	96/3	623,197
Westminster and General, Life, 28, King St., Covent Garden, W.C. *Act.*, Ernest Woods, F.I.A. P	1836	48/10	65/-	90/6	650,531
Yorkshire, Fire and Life, St. Helen's Square, York. London Office, 2, Bank Buildings, Princes Street. P	1824	49/1	64/9	91/7	978,511

Medical Sickness and Accident, 33, Chancery Lane, W.C. *Sec.*, F. Addiscott, F.I.A., secure to registered members of the Med. Prof., and Licentiates of Dental Surgery in United Kingdom, a weekly allowance during incapacity from sickness or accident. Mutual. Established 1884. Assurance and Annuity Funds £160,000.

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