MEDICAL EXAMINATION

FOR

LIFE INSURANCE

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LONDON
EDWARD ARNOLD & CO.
1921

PREFACE

To those who know their medical work and may have to apply it to insurance, this work is dedicated. It gives no history of the life offices, but supplies information as to the various kinds of risks. It does not deal with insurance practice as a "special" branch of medicine. It treats only of the application of medicine to the business problems involved.

Though various new hints are included, some perhaps controversial, but in accord with the author's own views and practice, yet the attempt to teach physical signs has not been considered part of his duty. Nor has he included discussions or studies of mortality tables. For all these things are dealt with elsewhere.

Rather has he attempted to conceive the difficulties of the insurance examiner faced with a blank form to fill up to the best of his ability in a short time.

To help the central officials of a company so far as this can be done by medical examination is the author's aim.

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81, Harley Street,
London, W. 1.
August, 1921.

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CHAPTER I

INTRODUCTION

THE insurance of human life was a natural development of the insurance of property. At the present day life insurance is carried on either by companies devoting themselves entirely to this class of business, or by companies which combine with it the insurance of property against loss by fire or any other cause, effect the underwriting of marine risks, cover their proposers or their live-stock against accidents and disease, and their vehicles against the dangers of the road. The latter class of office has cast its net so wide that it is possible to obtain a quotation for a premium against almost any contingency that can happen in a civilized community.

The companies that deal only with the insurance of life—that is, against death—tend more and more to be amalgamated with one or other of the combined companies. The reason for this is convenience. The introduction of a proposer for one class of risk in such an office often leads to that office securing with a minimum of trouble and expense the other class of proposal. This is not without its effect on the medical selection of lives.

Medical selection is only a part of the selection of lives for any kind of life insurance. It is only reasonable that an office, for instance, that holds a very large and profitable fire account with an individual should be predisposed to favour the consideration of that individual

when his proposal is for the insurance of his own life. This illustrates, in one way—namely, by the self-interest of the office—that the selection of lives is not entirely a matter for the medical profession.

There are, of course, many other factors which enter into the consideration of a life proposal. In addition to financial considerations involving other forms of business, as happens in the combined offices, there is the part played by the difference between proposers of different positions in life, but with similar defects. For instance, the great offices doing a pure business, which are still able to resist the tendency to amalgamate, will not deal in exactly the same way with a man who has an insurable form of heart disease, if he is liable to excessive physical strains, as with a man whose occupation is regular and sedentary and his exercise discreetly governed. Nor would they regard a possible tuberculosis danger so anxiously in a farmer as in a draper or clerk. A country squire consuming a high allowance of alcohol has a "better life" than a publican consuming the same amount.

Many other points have to be considered at the head office of the company in addition to these. Business is very competitive nowadays, and the greatest ingenuity has to be exercised by the actuary, the manager, and the directorate in the endeavour to steer a course which shall be profitable to the company. They must so assess the "life" that the immediate interests of the office as well as the remote dangers of loss shall be carefully safeguarded. They must not turn away business. Medical selection precedes this final assessment.

Such matters as I have mentioned will frequently be dealt with in the medical reports of those who examine proposers, and are asked to give their opinion to the office of individuals with whom they are acquainted as patients. But they will always be dealt with finally by laymen.

CHAPTER II

INSURANCE WITHOUT MEDICAL EXAMINATION

A GREATLY increasing business is being done in the insurance of proposers without medical examination, though this does not imply that there is no medical selection at all.

Many members of the public, men as well as women, have various reasons for objecting to a medical examination for life insurance. Some of these reasons may involve a consciousness of defects which raise a doubt in their minds as to their eligibility. This would seem to involve the existence of an influence which would be adverse to the interests of the office. But it does not by any means follow that this is so.

"A young man with indigestion thinks he has heart disease. An old man with heart disease thinks he has indigestion."

Very little business without medical examination is done in the older lives. It is believed that lives over fifty years of age show an increasingly severe selection against an insurance company as age advances. The middle-aged man who has had an occasional attack of giddiness in the street, or a slight pain over his heart when there has been thirty years' struggle behind him and no definite cause why he should have a pain in his heart, may say that "it's all indigestion" to himself. On the other hand, he will ignore the occurrence in filling up his proposal form for life insurance.

Most offices doing business in insurance without medical examination do not give this privilege to the older lives.

There is usually also a protection afforded to the office by the fact that the proposer who wishes to insure without medical examination does not as a rule receive the full benefit of his policy should his death occur within three or six months. In this way the office gets a premium which only covers the proposer for half the sum assured should his death occur within three or six months. This means that the proposer who avoids medical examination pays an extra premium for the first three or six months. He pays for more insurance than he gets, as much as double the rate at first.

Recently one of the offices, whose experience of insurance without medical examination has been one of continued success, has eliminated this restriction, and the policies may also be "assigned" or dealt with as negotiable securities.

Moreover, when a proposal is made for insurance without medical examination, the questions asked are usually of a searching character, and the fullest references to medical men and friends are required.

There are many shy people. There are many very busy people. There are many people who are afraid of medical men. There are minor defects such as nævi, or congenital malformations that a proposer may not wish to have discussed. To refuse to consider these cases is not in accordance with the spirit of the times. Moreover, the experience of those offices who have done this class of insurance for over twenty years has shown that it is abundantly profitable. One such office gives its agents power to cover risks up to £12,500 (recently without any limitation of the policy as regards proportion payable, or assignment) during the period that elapses between the signing of the proposal and the completion of the enquiries which end in acceptance, rejection, or the demand for medical examination. This is not dangerous to the company, because a proposer who signs a proposal

in good faith is not likely to die within the period—at most two to three weeks—during which the papers are being completed.

A great deal of business can be done without medical examination, and the medical advisers of an insurance company are often asked to assess lives so far as they may be judged by the statements included in the proposal form and references from the proposers' friends. There is often also a medical reference by some doctor who is or has been the medical attendant.

Life insurance is so much a matter of business that insurance without medical examination is becoming more and more common. A man may desire to set up a policy to provide a sum of money when his child reaches a certain age. This may be for education either at school or at the university, or for some form of training. He may wish to provide that, should his death occur before the child has reached the age for the payment of the policy, no premium shall be demanded from his executors to keep the policy in force. Most offices are prepared to issue such policies with this additional benefit for a small extra premium, and many such policies are done without any statement beyond those made by the proposer in his proposal form. In other cases the office insists on medical examination.

By reserving the right to examine proposers, the office protects itself in cases of doubt. A history of pleurisy, or a bad family history of consumption with a light weight in the proposer, "gassing" during the war, a history of rheumatism in youth, Bright's disease and dropsy in the parents, with a heavy weight and a doubtful occupation, are instances of the sort of thing which will lead the head office officials of a company to insist upon medical examination.

Unfortunately, when the head office insists upon a medical examination the proposer, who had hoped to

secure his policy without going before a doctor, often expresses disapproval of the suggestion that he should be examined. Agents do not always explain to the proposer that the head office reserves the right to insist on examination. Should the proposer subsequently come before a medical man for examination he will approach the examination with a sense of injustice. This is unreasonable, but proposers and agents are very often unreasonable.

The examination of a proposer in a bad temper has then to be undertaken. It can usually be managed quite comfortably by pointing out that he will "now get the full cover from the commencement of his insurance," or "it is a good thing to be overhauled at the company's expense." A little courtesy and geniality will generally overcome the soreness.

The offices usually do not attempt to make *special* assessments on lives that have not been examined, and, in the event of refusal to undergo examination, prefer to be without the business, should the papers suggest that an extra risk is likely to be incurred.

"Non-medical examination" business is therefore a special branch in a modern office. It is usually limited to the younger lives, and the sense of the management in detecting the purely provident class of proposal, or the "good risk," is its safeguard. It enables the company to secure a considerable volume of business that would otherwise remain uninsured, and although examination by a medical man is theoretically better, yet there is evidence to show that non-medical examination business is attended by a mortality at any rate no worse than examined business in the same office. This is not altogether unexpected, because the examined business in such an office would include many lives with defects which caused the office to insist upon the examination. The best mortality experience is usually derived from the business

examined by a very experienced examiner at the head office or at the chief branches.

The rules derived from one's individual experience of disease are far too narrow for life insurance. Great advisers to insurance companies have often insisted that no business should be done without medical examination. Sometimes they have stated that certain illnesses could be detected in an early stage by medical examination, or that there may be a risk unknown to the proposer which is detectable. But it is to be remembered that the perfect life may be struck down by influenza and pneumonia in a few days, or that changes may happen to an individual before he has been insured very long which may cause him to become an early victim. By careful selection of non-medical examination business the cases with tendencies to an early breakdown can usually be detected by a good management.

Some actuaries have even voiced the opinion that a sufficiently large volume of business would enable them to dispense with medical selection altogether. In fact, one actuary has often said that if he could insure all the people that ride past his office at a central point in the city of London, without medical selection, he would do a very fine and profitable business in the course of a year. This would, of course, mean that a large average sample of the population would include such a proportion of good lives, that their mortality would be favourable. But it would also have to mean that the public who ride in buses did not go that way so as to secure the benefits of insurance!

In other words, the reason for medical examination is to overcome the tendency of the public to insure only when insurance is necessary—that is, to overcome selection against the office.

For the reasons stated, where the proposers' statements are made to the medical examiner and the examiner

then has opportunities for asking supplementary questions to elucidate the proposer's replies, the examination form filled up by a medical man is always better than the non-medical examination proposal in assessing lives at the head offices.

But it must be remembered that a patent defect in a proposer is usually known to his intimate friends and that fraudulent misstatements require more or less of a conspiracy between the proposer and other individuals to secure success.

There is no way of preventing such minor frauds in life assurance except the general sense of honesty and responsibility that will prevent two or three or four persons combining to carry them out. In most offices the reference to a medical attendant is required in non-medical examination business for the larger sums insured. For various reasons fraud is less likely among those who insure for small amounts such as one hundred to two hundred pounds.

The chief medical officer of an insurance company must exercise the greatest discretion when assessing non-medical examination proposals. The papers put before him usually include the proposal form, the friends' references, and the agent's form. In some offices where the sums insured are considerable, the private medical attendant's report is automatically appended. In other cases the chief medical officer must ask for the private medical attendant's report when he requires it. Non-medical examination business undoubtedly opens the way for considerable suppression of material information on the part of the proposer, and distortion of facts in the personal and family history, and it would at first sight appear that the business was extremely doubtful. We must remember, however, that this doubtful business is only a proportion of cases, and, if the field be sufficiently large, quite a small proportion would, in any probability, be doubtful or dangerous to the office. Of

this proportion a certain number must inevitably be exposed should they attempt to obtain a policy when they have definite defects.

It is apparently no larger than the proportion which will endeavour to secure insurance *with* medical examination. The restriction of the older lives, and the power of insisting upon medical examination in doubtful cases, are powerful means of protecting the office against fraudulent insurance. It is undoubtedly true that the older lives are more likely to exercise a powerful selection against the company, and therefore most offices very properly exclude them from the benefits of non-medical examination business. There are certain people who will gamble on the chance of being taken without submitting themselves to a doctor. There are also people who will submit themselves for examination knowing full well that the examination does not usually go far enough to discover, for instance, cancer of the rectum or uterus.

The chief medical officer must examine the papers with great care, and should there be any doubt in his mind as to whether the proposer is an average risk, he should either consult the medical attendant, get him to examine, or insist upon examination at the head office, or at an important branch.

The chief causes of doubt arise from:

1. Habits.
2. Pulmonary diseases.
3. Rheumatism.
4. Family history.

Admitted deformities and disproportionate height and weight are also conditions which will call for medical examination.

CHAPTER III

THE MEDICAL STAFF OF A LIFE INSURANCE COMPANY

THE need for medical selection arises from the fact that even in the largest office there is still a restricted field. The public does not insure unless it feels the need of insurance.

A great deal of business is conducted for purely provident reasons, but there are still instances where the endeavour is made to provide for dependents, or death duties, or lenders, out of other people's pockets. There are also cases of existing illness, cases of unrecognized illness, cases where a family history renders the proposer doubtful as to his longevity, in all of which the selection may be against the office. To classify these medical information is required.

People of advancing years may desire insurance for the purpose of protecting their estate in the payment of death duties; people may have a life-interest which will cease at the death of another individual; an heir may wish to obtain capital while the testator is alive; or an invalid may demand higher terms for an annuity because of his invalidity. The proposer may choose a whole life insurance when he is really not an average case for an endowment policy.

It is not only for attempted fraud, but also for admitted defects and special kinds of policies that every insurance office has to employ a large number of medical practitioners.

The medical staff of an insurance company includes:

The medical officer or officers at the head office.

The chief examiners at the branches.

The occasional examiner in town or country.

The medical referee, or private medical attendant on the proposer.

The medical officer at the head office is usually appointed from the ranks of consulting physicians and surgeons; he works largely in association with the actuary and manager, and examines cases at the head office; his duties include marking of sets of papers before they are submitted to the management or the directors. He has to consult frequently with the actuary, and is usually well versed in the business of his company. He has to deal with the reassurances from other companies. He has to know the nature of risks with which his office does not care to be concerned. He must not be susceptible to pressure either from within the office or without. He must be strictly impartial in his medical advice.

The chief examiners of the branches of a company are usually selected by the management at the head office from those who hold important hospital appointments in the towns where the branches are situated. They are greatly trusted and must be men with a wide knowledge of their profession and of the world. Impartiality and integrity are qualities that usually accompany such knowledge.

The occasional examiner in town and country is selected by the head office or by the branch manager with the approval of the head office. In some cases it is very difficult to avoid employing the practitioner who is the medical attendant of the proposer. This often results in a conflict of duty in the mind of the practitioner, whether his patient or the office is to be chiefly considered. It is to the credit of the profession that the information given is so often accurate and complete. On the other hand, where his sense of duty to the patient seems to outweigh the protection of the interests of the office,

the practitioner sometimes seems to wish to convey the idea that the risk of the distinctly under-average case has to be explained away. The refusal to act would in itself raise suspicion in the minds of the officials at the head office. Their duty is to protect the interests of the whole body of the insured. The results of employing the medical attendant to examine are, on the whole, damaging to this protection.

I have often heard occasional examiners remark upon the enormous reserve funds of the insurance companies. These reserve funds are liable to fluctuations in value. They belong to the insured, and it is the duty of the medical examiner to protect the office against placing among the average class, hazards which involve extra risk. Agents are sometimes unscrupulous in attempting to get such hazards accepted at the ordinary rate, and local interests, especially where private patients of influence are concerned, help to increase this pressure. It is one to which no office should subject medical attendants.

The medical referee, permission to refer to whom is given in the proposal, or in the medical examination form, or both, fulfils the proper function of the medical attendant in relation to insurance. He is usually expressly asked not to refer to the patient, nor to see him, but to state, in the replies to the questions addressed to him in the medical reference form, his opinion of the risk. The proposer gives permission for this departure from the code of professional secrecy, but he does not know whether the reference will be taken up, and in the majority of instances it is not. In business where medical examination is the rule, the medical reference is only taken up for special reasons. The medical reference is used very largely in non-medical examination business, but also has its uses in other classes of insurance. When employed as a medical referee the medical practitioner should answer the questions as fully and fairly as possible.

The medical officer at the head office takes very little

notice of adverbs and adjectives. He is much more inclined to ascertain facts. For instance, a reply which states that the proposer had "a slight attack of pleurisy some years ago" is not so useful as the statement that the attack was one of "dry pleurisy of five days' duration, seven years ago, no after-effects." The medical referee should bear in mind that he only affords one link in the chain of evidence which decides whether his patient will be accepted or rejected or charged an extra premium. There are the friends' references, the proposer's own statements, the agent or's inspectors' or branch manager's reports, and such information as may reach the head office through private channels, to be weighed together with the medical reference.

Frauds on insurance companies involve what practically amounts to a conspiracy of several individuals. They are not common. When they occur it is not desirable that a member of the medical profession should have any part in them, nor even when they are attempted. Collusion of the medical attendant is easily detected.

In the mind of the actuary nothing is more damaging in forming an estimate of the integrity of medical referees than to receive, in the case of a proposer who has been attended for various acute illnesses of considerable importance, and who has proved his complete recovery to a competent examiner, a medical reference which glosses over these illnesses without giving details. The power of resilience and vitality in such a proposer is favourable to his acceptance at ordinary rates. The reception of a glossed reference raises doubts and causes delay. It is as much for the confirmation of a proposer's statements that the medical reference is required as for the detection of some illness which he has overlooked or forgotten. There is only one safe rule for the medical referee. If he wishes to act in the best interests of his patient he should state his medical reference fully and succinctly without minimizing or exaggerating the medical history.

CHAPTER IV

THE MEDICAL FEES FOR INSURANCE WORK

THE fees paid to these various groups of the profession by insurance companies depend upon the services rendered. Insurance work naturally attracts the best types of medical men. It is not a special branch of medicine, but rather a branch of applied medicine in the widest sense.

The fees paid to the chief medical officers are entirely a matter of personal agreement between the company and the doctor. In some offices the scale is arranged with one or more medical officers so that each receives the same fee for each hour of attendance. During the time at which the medical officer attends he marks the papers coming from branches, or from other examiners to the head office, or from reassuring offices, with assessments of the risks, before they go to the manager or actuary or board of directors. He also examines such cases as are arranged for him, and re-examines certain special cases of difficulty. It is customary for him to consult with the actuary or manager in assessments of an unusual nature, and he often does so in every case.

The offices have different methods of dealing with their chief medical officer. In some the income-tax is paid, in others it is not. Sometimes the medical officer has lunch with the management or with the directors. Very frequently he is paid an extra fee at the usual rate for examinations conducted outside his hours of attendance, or at his own or the proposer's residence. It is therefore not possible to define the scale of remuneration

for the chief medical officer, but to-day it may be taken that he receives approximately a fee of about £3 3s. for each hour of attendance at the head office, which is paid as an annual salary. He usually receives a month's holiday, and the office bears the cost of his substitute. Where there are two or more medical officers they are not expected to arrange their holidays at the same time, but one has to act for the absent, and receives additional remuneration, unless this duty is included in his contract.

The chief examiners at large branches and the occasional examiners are paid according to the number of examinations they carry out. The fee is usually one guinea for each examination. By an arrangement made in 1920 between the Life Offices' Association and the British Medical Association, the fees for life assurance examinations were settled so far as members of the British Medical Association are concerned. The following extract from the supplement to the *British Medical Journal* of July 17, 1920, gives the agreement arrived at:

Fees for Life Assurance Examinations.

It is very important that members of the Association should clearly understand the nature of the bargain made on their behalf with the life insurance offices, and confirmed by the Representative Body on June 26.

The arrangement is the result of negotiations with the Life Offices' Association, a body representing all the British life insurance companies. The position is that the Association is pledged to accept the agreement, and it is the duty of loyal members of the Association, however much they may object to particular details of it, to accept the agreement as a whole and therefore to accept work offered by the life offices on those terms. Any other attitude can only have the effect of leading outside bodies to the conclusion that it is useless to carry out any collec-

tive bargaining with the Association as its members are not likely to abide by the result.

The new scale represents a distinct improvement on the old one. All the smaller fees for industrial examinations are raised and the objectionable half-crown fee is abolished. The fee for examinations for policies between £100 and £300, which in many offices has hitherto been half a guinea, will now be a guinea, and this concession alone will undoubtedly prove very valuable. It is estimated that the increase of fees under this head alone will be very considerable.

NEW SCALE.

Industrial Offices.—Fee for medical examination to be 5s. (minimum) or 10s. 6d. according to the form of report asked for.

Intermediate Offices—that is, the ordinary branch of industrial offices and ordinary offices which issue policies whose average amount is small (for example, the ordinary branch of the Prudential and the Provident Mutual Life).—Fee for medical examination for policies up to and including £100, 10s. 6d.; over £100, 21s.

Ordinary Offices.—Flat rate of 21s. whatever the amount of policy.

No Reduction of Existing Fees.—No reduction to be made in any existing fee for medical examinations.

Exceptional Cases.—The companies will continue to pay exceptional fees for cases in which exceptional trouble has to be taken, or in which the opinion of a consultant is required. They will adhere rigidly to the arrangement as set out above for all normal cases.

The author would only remark of this agreement that the extension of non-medical examination business, which is now going on in nearly all offices, will very greatly reduce the money spent by the insurance companies among members of the medical profession.

The medical referee who has not to see the proposer but only to fill in his account of the proposer's illnesses, and his general impression of the proposer's prospects of longevity, is usually paid half a guinea.

It is a curious fact that questions as to the amount of fee are more often raised among practitioners who are only occasionally called upon to examine or to give references, than by medical examiners at large branches. The latter are usually men of considerable standing in the profession and are often of the consultant rank.

CHAPTER V

THE EFFECT OF MEDICAL SELECTION

In giving advice to an insurance company it is the duty of all medical practitioners not to consider merely whether the patient is in good health at the time. This is, of course, an important fact to establish, but the office desires an opinion also as to whether a proposer is likely to live as long as other healthy persons of the same age.

The office has to deal with tendencies rather than with the immediate results of clinical examinations. A proposer may be perfectly well at the time of examination and yet have acquired or inherited tendencies to an early breakdown. His likeness to one or other branch of his family, his habits, especially as regards alcohol, his weight, especially as regards obesity or the reverse, his occupation and recreations, all have a bearing on the assessment of the risk. There is a need not only for accuracy and skill in detecting variations from the normal, but also for a balanced judgment, wide knowledge of the world, and, above all, independence.

The effect of medical selection is to diminish loss to the company, which means loss to the mass of the assured. The office may make a *profit on mortality*. This means that fewer people will die than were expected to die during any period wherein the results are tested. During this period a certain number of the assured would, according to the tables of mortality, have died. If, owing to medical selection, the office finds itself in the position that a less number has died, it is obviously in the possession of funds which have been accumulated by the mass of

proposers, over and above the sums which it has had to pay out by death claims. These sums would represent a profit on mortality.

There are in addition other sources of profit even to the office which deals only with life business. The funds obtained by the payment of premiums may be so well invested that the interest earned is much higher than the interest allowed to the proposers for their premiums. For instance, an office may calculate that during a life policy the amount of interest earned on the premiums may be expected to be 3 per cent. It may earn 5 or 6 or 7 per cent. by the wise investment of its funds.

Among the offices which do a combined business, including the insurance of property against fire or other loss, against employer's liability or against accident and disease, the life department stands in a peculiar position. Among the other classes of insurance, where the contract is usually for one year, it may be ascertained annually what is the amount of profit or loss on the account, but in life business, if badly selected, the loss may not be known for many years.

For instance, a heavy man aged thirty, who appears to be in robust health, may succumb to a stroke of apoplexy at fifty. If by pressure of the doctor or agent or financial interest of the company he has been accepted at ordinary rates for an endowment policy payable at sixty, his death will involve the company—that is, the assured—in loss.

Or, again, a light man apparently in good health, who has lost one of his relations from phthisis, may be accepted at the age of twenty-five for an endowment, which would be payable when he is forty years of age. He may become a victim of his family disease five years after insurance, when, in spite of the comparatively high premium payable throughout the term of his insurance, the office will lose by the transaction.

Or, a man in one of the artistic professions living a

Bohemian life and taking, admittedly, a full physiological amount of alcohol, may appear to be in good health and may die from influenza and pneumonia with much less chance of recovery from the beginning of his attack than if he were a hard-riding huntsman.

Medical selection undoubtedly decreases the death-rate among the assured for the first few years of assurance. It is probably true also that by compelling the assured to take endowment policies, terminating before the period at which degenerative processes are considered to be likely to occur in that class of proposer, it prevents loss in the latter years of insurance.

Many proposers are compelled to take endowment policies because it is considered that they have a tendency to early degeneration of their heart and bloodvessels. This is often considered by the ignorant to be a demand from the office for a higher premium than the proposer expected to pay when he proposed for a longer period or for the whole of life.

But it is to be remembered that the endowment policy covers two risks. The first risk is that of the man dying during a certain limited number of years, which is obviously less than it would be of his dying in a longer term of years, and less than the certainty of his death in a whole life insurance. The second risk of an endowment policy consists of the inevitable claim at the end of the term of years for which the endowment is granted.

The actual insurance part of the risk is therefore less costly, the shorter the endowment period. But the sinking fund which has to be set up to provide the sum at the end of the endowment period becomes very costly in short periods. It is therefore true to say that though the whole premium is much higher, yet the actual cost of pure insurance is much less for the endowment policy. The public is beginning to recognize this, and a greater proportion of modern life insurance is conducted on the endowment plan.

The profits of life insurance companies are therefore derived from two sources. One is derived from the mortality experienced being less than the mortality expected according to the mortality tables. This profit is largely due to careful medical selection.

The other is due to the investment of its funds so as to secure a higher rate of interest than that allowed in estimating the premium to be paid to provide the sum assured when the claim shall fall due. The latter source of profit is due to the care with which the business is conducted by the management and directors. Out of the profits from both sources a certain sum is set aside for providing for various contingencies, and as a bonus for those assured who have chosen policies which share in the profits.

In *mutual offices* the whole of the loss or profit has to be borne by the assured. In case of loss the benefits are reduced or the premium raised. In offices which have shareholders or stockholders and are called *proprietary offices*, a certain proportion of the profits, usually a very small proportion, belongs to the proprietors. In this kind of office there is perhaps an extra element of safety. Life assurance business is so well conducted in this country that there is little to choose between them.

Bad or careless medical selection makes no difference to those who conduct either kind of office—the loss does not fall on them—except perhaps a gradual loss of reputation which would inevitably occur. The profits, not less than the accumulated funds which have been derived from the investment of premiums, belong to the assured. The medical man who takes his life insurance work casually, or allows the personal interest of his patient, or the local interest of a proposer, to overbalance his judgment against the interest of the office, is only robbing the assured. It is rather more than a figure of speech to say that any attempt on his part to influence an office to accept a risk as first class against his private better judgment is an attempt to rob widows and orphans.

CHAPTER VI

THE MENTAL ATTITUDE OF THE EXAMINER

WHEN a medical man is asked to make an examination for life insurance an examination form is laid before him. This form is only one of many that the office will issue before the risk is finally assessed.

The proposer, either on his own initiative or at the request of an agent of the company, has made up his mind to make a proposal and has filled up a proposal form. In this proposal form he gives an account of himself, the truth of which he declares by his signature, witnessed by an official of the company.

He has stated the names of certain friends who know him well to whom the office will issue "friend's reference" forms. If he has been introduced by an agent of the company, the agent will also be asked his knowledge of the proposer on the "agent's form." If he has had illnesses and medical attendance, his doctor or doctors may be asked to give an account of these illnesses and their impressions of his tendencies towards health and longevity, or disease and early death, in the "medical reference."

The proposer does not usually desire to give a bad impression. The agent is interested in securing the business, but does not as a rule wish to get the reputation of introducing bad lives. Moreover, he is paid by results. If he has approached the proposer and induced him to present himself for insurance, the tendency is for him to present the life in a favourable aspect.

In some offices the medical examiner is asked to peruse the proposal and references before the proposer comes

before him. In others the examination is conducted entirely in the dark, so far as the medical examiner's knowledge goes, before the proposer appears. He does not know whether the proposer wishes to insure for an endowment or a whole life policy, or for an insurance to provide a sum in case he dies before a relative, or to provide a sum to be paid in the case of the first of two or more deaths, or at the last, and so forth. In offices which give additional income to an annuitant when the proposer can prove that his life is unsound, the examiner is usually told. There is a great mass of business transacted, however, in which the examiner has only to say whether the proposer is likely to live as long as other healthy persons of the same age.

The medical examiner must not be prejudiced in favour of a proposer by reason of his own statements or those of his friends or of the agent in the case. In the event of his being called upon to examine an annuitant claiming better terms than the ordinary he must not be prejudiced against the proposer's chances of survival. He should approach the examination form with a perfectly open mind.

He is not asked to make an exhaustive clinical investigation, nor should he do so. He should endeavour to answer the questions put before him as clearly, and fully, and shortly as possible. The inexperienced examiner often endeavours to qualify his statements by long-winded explanations. Any explanation that is given should be as brief as can be. When his examination form is received at a head office by the medical adviser of the company, a great deal of anxiety and indecision and often delay are caused by explanations or qualifications.

The examination form, when completed, is a confidential document, and its contents are never communicated, or should never be communicated, to the proposer, his friends, or the agent. Some offices insist that the medical examination form shall be transmitted directly to the

head office on completion. Other offices will allow the form to be sent to a branch manager. The former course is in every way the best. The head office often has private information about a proposer which it is extremely undesirable for anyone in his district to know.

Although to many practitioners the examination of the proposer is the crux of the whole question of his acceptance or rejection, yet it is only to be considered as one part of the selection.

It is most important that the medical examiner should adhere to the strict letter of the examination form, and that he should show no bias either in the one direction or the other. He must observe accurately and put down his observations clearly. It is, for instance, undesirable to say that a man has a "slight mitral murmur." On the other hand, he need not enter into an elaborate description. The needs of the case are satisfied by a competent man saying that a mitral murmur is present, and, in the appropriate place, that the apex beat is or is not in a normal position (preferably giving its distance from the middle line), and that the pulse-rate is so much. The head office will not usually discriminate between several types of mitral murmurs, though some are much more serious than others. It will take notice of enlargement of the heart and increase of the pulse-rate in such a case. In many cases, even where the apex beat is in the normal position and the pulse-rate not raised, the office will issue a special form for heart disease and pay an extra fee to the examiner to fill up this "heart form" only.

This is only an illustration of the type of thing to be avoided. It is the presence or absence of abnormal conditions, whether they be in the physical examination, the family history, or the proposer's account of himself, that the office wishes to know. The assessment of the risk will be made eventually by the chief medical officer and the officials at the head office. They will take everything into account.

CHAPTER VII

THE EXAMINATION FORM

MEDICAL examination forms usually include statements as to the proposer's previous medical history, his medical attendance, his accidents and operations, recently his experiences while serving his country, his family history, his habits, and certain questions as to his insurances. These statements are usually put to the proposer by the medical examiner and signed by the proposer in the presence of the doctor who witnesses his signature.

Any points that occur should be investigated briefly by the doctor, and the proposer's statements in reply to any subsidiary questions interpolated, before the proposer signs the statement. The remaining part of the form deals with the physical examination of the proposer.

During the time when the questions are being put to the proposer, there is an opportunity to observe his manner, his appearance, including his build, and to notice peculiarities or abnormalities. His mental state can be established. Points which may tend to establish his identity in the future may be noted. An inference may be obtained as to the possible abuse of alcohol.

The proposer's statements, witnessed by him, are naturally recorded from, or in, his own words.

The second part of the form, which relates to the physical examination, should be regarded as *entirely confidential to the office.* In answering the questions on this part of the form the examiner should cover his writing with a piece of blotting-paper, or keep it out of the view of the proposer by examining him in a part of the room away

from his writing-table. The results of his examination should never be communicated to the proposer, and especially is this true when the results are apparently entirely favourable. The proposer will often enquire as to whether he is a good life, or free from defect, and it is unwise to reply in the affirmative. The examiner can reply, "I am not at liberty to tell you." There may be information in the hands of the head office which will show from his past history, which he has concealed from the examiner, something as to his habits, illnesses, family history, or previous insurances which will put a different light on the case.

Very frequently it happens that a proposer may be "rated up" or declined for reasons of which the medical examiner is quite ignorant, and which have nothing to do with the proposer's allegations to him, or with his physical examination. Should this unfortunately arise, the proposer may call upon the examiner subsequently, and he can only say that so far as he was concerned he considered his life a good one, and refer him to the head office if he wishes to follow up the matter.

Further, it is undesirable even to communicate an adverse opinion to the proposer. There will often be an argument or even a dispute as to the facts which will lead to an unpleasant or undignified position. Should the medical examiner be in a country town where gossip is prevalent, great harm may be done by a malicious person who desires insurance at any sacrifice of the truth. Still more is this the case when the medical examiner is the proposer's medical attendant. If the proposer is allowed to see a document which describes him as presenting scars of congenital syphilis, or which says that he presents the appearance of a free liver, which are necessary things for the office to know, a great indiscretion would be committed.

But an even greater indiscretion would be to suppress

information which would be useful at the head office in assessing the risk.

It is necessary for the medical examiner to remember that while medical selection is only one factor in assessing a life risk, the medical examination is only a factor in the medical selection. The proposer's medical attendant may supply information which will shed quite a different light on the case which has been prepared for examination —as, for instance, by an unscrupulous doctor, agent, or broker. Moreover, information often reaches the head office from friends' references which will necessitate further enquiry from the proposer and, by permission, from medical men whom he has consulted but whose names he has not disclosed to the examiner.

The attitude of the office to their medical examiners is that of implicit confidence in all straightforward answers to straightforward questions. Doubts only arise in cases where the management has strong reasons to suspect that the answers are insufficient or favourably glossed.

The author has often heard examiners using the absurd phrase that they have "passed" lives for life insurance. Sometimes there has even been resentment expressed that a life which has been "passed" has not been accepted by the office, for reasons which are perfectly good but which are based on confidential information. The phrase is merely a careless colloquialism.

CHAPTER VIII

NERVOUS PROPOSERS

MANY proposers are extremely nervous at facing the medical examiner for insurance. They will be unable to think of their family history, dates and ages are forgotten, their pulse-rate will rise to over 100 per minute, their hands become tremulous, their hearts tumultuous, they will be unable to pass water, and in extreme cases become very difficult to recognize as individuals normal from the life insurance point of view. This may happen even with people who know no fear in the ordinary occasions, or in certain extraordinary occasions, of life. Others are as matter-of-fact and practical as the examiner himself.

Nervousness often recurs with people who are examined frequently and who are just as nervous at their tenth examination as they were at the first, and yet free from nervousness in their business affairs or even in the dangers of war.

The last thing that should happen to a medical examiner is for him to become nervous himself, especially when examining such people.

Women are presenting themselves very frequently for medical examination. They are usually more confident in their replies as to their illnesses and those of their family than are men. Women often remember ages and dates of family occurrences better than men.

One objectionable form of nervousness occurs in proposers who regard every question put to them from the examination form as an impertinence and who will tell the doctor that they "put all that on their proposal

form." The medical examiner should never show any resentment or annoyance to the proposer. He is employed to fulfil a certain duty for which he is paid by the insurance company.

In handling nervous cases precautions are necessary. The first of these is to be sure that the nervousness is not assumed for the purpose of obtaining a less thorough examination. The second is to put the proposer at his ease. Most men respond to a sympathetic enquiry into their business, or experiences, or their family, especially their children. By tactful references to some detail of their business, as though asking for instruction, a man is often induced to forget the reason of his being before a doctor. For this a wide knowledge of the world and of men is a necessary part of the equipment of the insurance examiner. There must be no suggestion of idle curiosity to a nervous, reserved man.

Women often have an exaggerated idea of the completeness of a medical examination and are nervous on this account. Business women who have learnt something of life, and who regard insurance as being simply what it is, a business transaction, are as a rule free from nervousness, more so even than men. When a woman, who is obliged to insure with but little knowledge of the world, comes before an examiner, he will readily notice by her manner whether she thinks that a more than necessary examination is to be made. The examiner who has had experience will readily reassure her.

Among men who have had war experiences involving strain and shock and have made many appearances before many "medical boards," there is often a form of nervousness. This also occurs among those who have been before pension boards. Most cases of neurasthenia acquired in war seem to become temporarily aggravated when applying for insurance. It often happens that a man who is drawing a pension implying a certain amount of dis-

ability may quite fairly be regarded as a first-class risk for insurance. On the other hand, there may be a nervous instability which is difficult to assess. The proposer as a rule seems to consider that even if he is drawing a 30 per cent. disability allowance an insurance office ought to take him as an unexceptionable risk. At the present time the insurance examiner must be prepared for such cases and judge them by their merits. Every medical man is aware of cases where symptoms become aggravated when there is a considerable addition to the income to be acquired from a pension board. Insurance sometimes seems to act similarly, though the result would not be the same.

CHAPTER IX

THE PERSONAL HISTORY OF THE PROPOSER

THE first part of the usual examination form includes questions put to the proposer as to his general health, after preliminary questions about his occupation, age, and state in regard to marriage. The usual reply as to general and present health is "good."

The doctor is then asked in most offices to enquire as to his previous illnesses and their dates, especially those for which there has been attendance by a medical man.

Some proposers remember their illnesses much better if they are asked, firstly, what doctors have attended them; secondly, the dates of the attendance; and, thirdly, what the attendance was for. It does not follow that because a man has had no illness he has a better life than a man who has had several acute illnesses which have been followed by complete recovery. Proposers often think it necessary to minimize their past illnesses.

Recent illnesses are always an important part of the medical history, but the dates of all illnesses should be given as exactly as possible.

It is usually advisable for the medical examiner to enquire from the proposer as to the duration of his illnesses. Should this information be significant the duration should be stated. For instance, the reply "pleurisy" should be supplemented by a statement as to whether it was attended by effusion, or lasted several weeks, or was followed by a cough persisting for some time, or whether the convalescence was tedious. The reply "influenza" should

be supplemented by a statement of the length of the illness, and whether there were any complications or not.

The name of the medical man who attended the proposer has to be ascertained, and much time is saved if, as not infrequently happens, the medical man is dead, by stating the fact of his death. The omission to do this may cause unnecessary letters to be sent to a non-existent doctor.

According to his experience a doctor will readily ascertain the names of consultants, hospitals, or special measures taken under the direction of the private medical attendant.

When a man states that he has only had the "usual children's complaints," enquiry should always be made as to whether they included scarlet fever (or scarlatina). This may have left complications such as chronic albuminuria or otitis media. It may have been followed by rheumatism or heart disease. The question "Any complications afterwards?" in reference to whooping-cough, influenza, typhoid, and so forth, will often bring out a statement that will necessitate investigation as to enlarged glands, thrombosis of veins, etc.

If the illness has been of a chronic nature such as "dyspepsia," the doctor should state whether it has been of several years' duration, or relapsing, or whether any steps have been taken such as dieting, attention to the teeth, or operation. Since surgeons have been treating so many cases by operation, proposers have often regarded a severe operation, such as gastro-enterostomy, as being quite a subordinate thing to the dyspepsia. It is not so in the eyes of the chief medical officer of an insurance company.

Naturally an office does not regard a man who has to be constantly dieted so favourably as one whose indigestion or urinary disorder is a thing of the past. There may have been an attack of nephritis which has led to prolonged dieting, or there may have been sugar in the urine,

and the proposer can only remain free from sugar while avoiding certain kinds of food. The practitioner, as distinguished from the insurance examiner, often regards a case of glycosuria which he has cured simply by diet as being of very little importance.

Foreign residence, including exposure to what are called tropical diseases, may be very much more important in one case than in another. The disease itself, the nature of the proposer's occupation, the prospect of return to an unhealthy district, the severity of the attacks, their recurrence, will all affect the assessment.

Some offices only wish to know whether the proposer has been beyond the limits of Europe, but, since the Great War, service within the limits of Europe has become important.

The nature of any affection acquired abroad should always be stated, and it is advisable to add whether the condition has been cured or not. The last date of any symptoms in the slightest degree referable to the disease should also be stated. For instance, after dysentery, the last attack of diarrhœa, or of mucus or blood in the stools, should be stated.

Questions as to military service have been introduced by most insurance companies. Among those who have taken part in the Great War there is often a curious mental attitude in regard to their experiences as soldiers. To many it was so much outside their ordinary life that they seem to consider that what happened to their bodies during the war cannot affect the insurance company's attitude.

Foreign service in the Army or Navy should always be given fully and exactly. For instance, the answer may be "served in France and Belgium, Salonica and Gallipoli," which are all within the limits of Europe, but imply a considerable risk of such affections as malaria and dysentery in the last two localities.

There is an advantage in stating whether the proposer was placed in any category on being demobilized, and whether he is receiving a disability allowance.

There is usually a special question dealing with accidents and injuries and operations. Their dates, nature, location, complications, and after-history should always be given.

The habits of a proposer as regards the use of *alcoholic beverages* should always be carefully ascertained. It is not useful to those who have afterwards to assess the risk to receive such answers to the enquiry as to habits as "moderate," "usual quantity," or "a glass now and then." It is much better to ascertain whether the proposer takes alcohol periodically, and if so, in what amount and at what intervals, and whether only at meals.

What the proposer regards as "moderate" may include a quantity far in excess of what is physiologically harmless. A man who takes a glass of wine twice a week, and one who takes seven or eight whiskies a day, will both describe themselves as "moderate." The answers to questions about alcohol should always be as exact as possible. "Total abstinence" is sometimes a term used when a man has abstained from drink for a month with the idea of becoming insured. It may mean that he has been ordered to abstain. In any case, where the proposer claims to be a total abstainer or a non-smoker the duration should be stated.

In many offices the question is put as to the liability of the proposer to any complaint. This would lead to statements as to eczema, neuralgia, and so forth, which will help the examiner during the physical examination.

Questions as to the use of *drugs* should be answered exactly. The officials at the head office do not mind a statement that a proposer had morphia injected, by a doctor only, for pain, but they do not like people who take hypnotics very frequently for insomnia, whether it

be morphia or anything else, such as sulphonal or veronal.

Vaccination is nearly always included, as is also the history or absence of history of smallpox. At the present day, however, non-vaccination would not be a bar to his acceptance even if he has not had smallpox. Some offices, however, will exclude death from smallpox, which is a definite malady, from the policy, if the proposer is not vaccinated and has not had smallpox. The modern tendency, however, is to avoid any exclusion clause in the policy and to give a perfectly clean and clear contract.

The proposer's insurance history is usually dealt with in the proposal form, but in some offices also in the medical form. The proposer's answers are sometimes unreliable in regard to previous insurance. If recent, he generally remembers it, though it is often wilfully misrepresented. If remote, he may often have forgotten it, or think it has no bearing on the present proposal. The history of declension may be given with a voluntary explanation of the cause, such as "I was run down at the time," or "The examiner was in a bad temper." The examiner should not be misled either by voluntary statements of the cause of previous declension or by the proposer's replies to his supplementary questions. Owing to the confidential nature of the previous examination, the proposer may be quite in ignorance of the real cause of a previous declension, even if it were due to medical reasons.

If, on the other hand, the proposer says that he is already insured in one or more offices, and replies to a supplementary question that he was taken at ordinary rates, the examiner should still be on his guard, because the proposer may have been accepted, but with a debt or lien on the policy, so that in the event of death occurring within a certain time the office would pay less than the face value of the policy.

This, of course, is one way in which the office secures an "extra premium" for an "under-average risk." Under this form of policy a proposer pays for more insurance than he actually gets. For instance, he may pay for a hundred pounds of insurance and a debt is placed on the policy, say of twenty-four pounds, and should his death occur while the debt is on his policy, the office will only pay seventy-six pounds to his executors. "Acceptance at ordinary rates" may mean that the proposer paid a tabular rate, but the office imposed an extra premium by means of a debt on the policy of this kind.

A history of the proposer's proclivities in the direction of field-sports is a very useful addition to insert. It is a guide to his general health, and affords information which is useful as a comment on the physical examination. For instance, runners are very often tall, thin men with long, narrow chests of good expansion. Rowing men, boxers, and Rugby football players have often large, broad chests. Cycle racers often stoop.

The effect of a proposer's statements as to his personal history is so largely bound up with his state as ascertained by physical examination that it is impossible to give rules on these grounds alone.

The personal history should afford clear indications of points to which special attention should be directed in the examination.

CHAPTER X

FEATURES IN THE FAMILY HISTORY OF THE PROPOSER

FAMILY history is often a stumbling-block at this stage of the examination. This is particularly true of male proposers who have often forgotten ages, fatal diseases, and dates.

Consumption in the family history is of great importance. The insurance offices do not attach undue weight to the proposer's explanations of how the relative acquired the disease, though in some cases these explanations are of importance. Tuberculosis of the lungs acquired as a result of exposure or immersion during the Great War may be quite satisfactorily explained. On the other hand, such explanations as "brought it on himself," or "was always delicate," should be inserted, as they may show in conjunction with the physical examination a tendency to low resistance in the proposer.

Some offices ask whether the proposer has been specially exposed to tubercle. When there is a family history of a wife or a sister or a brother dying of consumption, there is some importance to be attached to these questions, as also when there is one of the family suffering from the disease. A proposer may not have been living with the relative for some years, or he may have been in constant attendance. A husband may have been exposed to large doses of infection during the illness of his wife, and have had his resistance lowered by constant strain and anxiety.

If dead, the date of the relative's death should be stated, and, if still suffering from the disease, the place of resi-

dence of the patient in regard to the proposer should be given.

A family history of death from consumption, or phthisis, or from some other tubercular infection, such as meningitis or abdominal tuberculosis, has some relation to the age at which the death occurred, as well as to the age of the proposer. The liability to death in the proposer from one of the same group of infections, especially phthisis, seems to decrease with age, though it is true that those families in which a death from phthisis has occurred seem also liable to death from other diseases at an early age. They do not stand infections well.

After about thirty years of age a proposer seems to become more independent of a tuberculous family history, but there are cases where the family history of phthisis seems to strike late in life, at fifty or sixty years of age. As a general rule the family history of phthisis may be considered to be extinguished as an adverse influence when the proposer enters at thirty-five or forty. This dictum has an intimate relation to the physical examination of the proposer, to his own personal history, his habits, and occupation.

Before that age a family history of phthisis, *per se*, demands an extra premium, which may often be applied as a "debt" or "lien" on the policy should death occur prematurely—*i.e.*, before the termination of the agreed term of the policy. Above that age, the case must be considered in regard to all the points discovered at the physical examination. In this regard, it must be remembered that many other causes of death become apparent as age advances. Deaths from phthisis are about as common, per 1,000 persons living at each age, at age sixty as at age thirty, but the other causes of death make the percentage of deaths from phthisis much less at the older ages. All the factors of the family history and the physical examination must be taken into account in the final assessment.

Very often the proposer will know nothing whatever about the circumstances of a death, either from having been too young when it occurred or from having left home previously.

Death from "pneumonia, bronchitis, or pleurisy" often covers tuberculosis. Whenever a proposer states that a parent died of "pneumonia or pleurisy" a short questioning will bring out the fact that the illness was of short duration in a person of previously good health, or that it was of a tedious duration.

A mother's or sister's death is often ascribed to "childbirth" or a "confinement," and in this case the examiner should enquire also as to the duration of the illness that followed the event. A confinement given as a cause of death may only be a phrase in which the family has been instructed and one which is used to cover phthisis. The death may have occurred some months after the child was born, and the death certificate will shed a very different light on the matter. If the proposer can give particulars they can be added as a note after the word "childbirth." For instance, "hæmorrhage in a few hours," or "blood poisoning, one week ill," will save the office delay and unnecessary correspondence.

The examiner is afforded an opportunity of making remarks at the end of his examination form and can say of such a case that it would be well to find out the nature of the alleged "pneumonia or pleurisy" or "childbirth."

Asthma and chronic bronchitis often show a family proclivity. "Death from heart failure" should always be supplemented by a statement of the duration of the heart disease, or the disease antecedent to the "heart failure." This may be quite unknown to the proposer, but in many cases there will be sufficient information obtainable for the examiner to infer a gradual or chronic heart disease preceding the death, and in others to infer the possibility of arterio-sclerosis. Or the case may bear a different aspect altogether, such as malignant disease.

Arterio-sclerosis, angina pectoris, apoplexy, aneurism, at a comparatively early age will cause special attention to be directed to such diseases as gout and syphilis, or raise questions as to build and occupation and habits. There is an hereditary tendency to arterio-sclerosis in any of its manifestations.

"Death from natural causes" is often given as though it had no bearing on the proposal. If such a death has occurred well into the eighth decade, it may mean simply the senile atrophy or natural decay often described as "old age" or "senectus." In other cases a death ascribed to "natural causes" may have occurred at fifty or sixty years of age, and have a distinct bearing, in conjunction with the physical examination, on the nature of the policy that may be offered to the proposer. More explicit information should be obtained as to the nature of the disease which caused the death. Sometimes a proposer is faced with a difficulty in remembering or pronouncing some medical term and uses the words "natural causes" to prevent what he thinks may be an error. For instance, the author has had a death in a relative ascribed to "natural causes," and on further investigation the proposer stated that his father's "blood all turned white, with a huge spleen," and the nature of the case became clear though the proposer did not venture to pronounce the words "splenic leucocythæmia," but agreed that that was the term used on the death certificate. This would not necessarily affect the risk in a healthy proposer. On the other hand, when a stout proposer, with a high blood-pressure subsequently ascertained, described the "natural causes" as "he had a sort of fit and never regained consciousness," the office took particular interest in the term for which insurance was desired. It would have done so in any case, but the family history made the case a little worse.

"Old age" is often given as a cause of death, but it is desirable even where the parents have attained great

ages to ascertain the mode of death. It may have a bearing on the physical examination of the proposer.

Old age in the parents is usually a valuable factor in the assessment of the proposer's chances of living. This is especially so when he resembles one or other of the parents who has survived to a great age. The proposer may not only have the same build and general physique, but may also have inherited a similar pathology. This is of importance in regard to such an affection as gout. For instance, a gentleman in a good position in life, taking much regular exercise, and having but one or two attacks of gout in his own lifetime, is a much better risk if his father who was also gouty since young manhood had lived to a great age than if he had died early.

As a contrast to old age in the parents, there is what is called an "early breakdown" age. Among proposers just entering on middle life the examiner will sometimes find a history of both parents and several brothers having died before fifty or sixty years of age of various diseases. There may be deaths from bronchial pneumonia (so called), pernicious anæmia, cancer, typhoid, and Bright's disease, all occurring between the ages, say, of forty-five and sixty. An insurance office, even though the proposer may be apparently in good health, is glad to see an endowment proposal in preference to a whole life proposal in such a case. The family history suggests deficient "vitality."

What has been said about the resemblance of the proposer to his long-lived relatives is of equal importance when the relatives have died young. There is an inheritance of old age and an inheritance of early death.

Bright's disease is often hereditary. It usually accompanies a particular kind of heavy build and rather coarse habits of eating and drinking. This does not mean necessarily any alcoholic excess, though a tendency to that may also be inherited.

Habits of living are usually due to the social status

and environment with which the proposer has been surrounded from his youth. Coarse and gross habits are not, however, to be regarded as incompatible with long life, any more than delicate tastes and refined ways of living are to be regarded as signs of deficient vitality. This is true also of features of exercise and of build.

"General paralysis of the insane" in a parent is often stated as though it were simply "paralysis." When "paralysis" is given as the cause of a relative's death, some attempt should be made to ascertain the kind of paralysis which occurred. For instance, a proposer may be asked whether it was due to a "stroke." If due to general paralysis of the insane (paralytic dementia) in a parent, the examiner should enquire as to the proposer's age at the time when the death occurred. He will also have to look for signs of congenital syphilis in the proposer during the physical examination.

Locomotor ataxia, spinal paralysis, spastic paraplegia, and so forth, given as the causes of parents' deaths, raise the same points as general paralysis of the insane. These diseases may all of them be concealed, the death being ascribed to lung disease or urinary trouble.

Epilepsy and insanity, given as the causes of death of near relatives, are serious detrimental factors in assessment. Insanity given as a cause of death may conceal suicide. The most careful investigation is required into the explanations, which are often furnished abundantly.

Epilepsy, insanity, or suicide in the parents usually causes the office to consider very carefully the proposer's circumstances, both financial and domestic, the strains to which he is exposed, his own history, and his physical condition. Some offices will exclude the risk of suicide from a policy should a close relative have committed suicide. Other offices will decline the risk outright if there be the slightest detrimental factor in any of these points.

Alcohol in the parents is usually regarded seriously. Many of the children of parents who have died of alcohol

are themselves abstainers. The closest questioning is necessary as to the past habits as well as the present habits of a proposer, when a parent has died of drink. It is usually wise to ascertain whether the proposer was of an age to know that his father or mother was drinking to excess. The children of alcoholic parents are not necessarily damaged, but are sometimes unstable, neurotic individuals. The parents' drinking may not have occurred until long after the child was born. Alcohol is often concealed and the proposer will state that a parent died of liver disease, or cirrhosis, or of vomiting of blood, or "burst a bloodvessel," and the examiner must ask further questions to ascertain the truth.

"Dropsy" is often stated to have been a cause of death. It may mean drink, leading to liver disease, or there may be an hereditary tendency to vascular or cardiac degeneration or to kidney trouble. Dropsy therefore requires thorough elucidation by the medical examiner.

Rheumatism in the family history is also important. With it the examiner has to consider chorea and heart disease in the relatives, as showing a tendency to one of these affections in the proposer, for which careful heart tests must be made.

Gout is markedly hereditary.

Cancer is not now usually regarded as hereditary. In some offices no enquiry is made specially as to the family history of cancer.

Accidents and injuries seem to run in some families. They may betoken an adventurous spirit which, if inherited, will lead the proposer into danger. Such histories may also conceal suicide as an hereditary tendency, a point to be remembered.

The insurance examiner need not have a long experience to realize the great weight that must be attached to hereditary influences in every kind of disease, and the significance that must attend any "tendency" or "weakness" found in the proposer, that has a bearing on his heredity.

CHAPTER XI

THE PERSONAL HISTORY OF RESPIRATORY DISORDERS

DISEASES of the chest rank first in the special conditions which are elucidated in the personal history.

A persistent cough, which may be described by the proposer as a "stomach cough" or a "cigarette cough," will be noteworthy. The nature of the expectoration should be ascertained, also the duration of the cough, and whether it is more frequent in the winter.

Pain in the chest may be ascribed to indigestion, but the examiner will be on his guard against phthisis, aneurism, angina pectoris, dilatation of the heart, spinal disease, and so forth. Pleural adhesions may cause pain.

Blood-spitting in the proposer's history is always regarded as serious. Though the proposer may explain it with the comment that it "came from the throat," yet hæmoptysis is extremely rare from causes other than tuberculosis, especially in the past history of proposers. The author has seen many cases of phthisis in which patients have been told this fable, some months or years before the clear development of the real disease. The date at which it last occurred and its frequency should always be stated.

Pleurisy should always be carefully investigated. There may be little to find at the physical examination. Its relation to a family history of phthisis, and the association of a personal history of pleurisy with light weight, will each demand a considerable addition to the premium. The history, especially as to its nature, and whether

attended by effusion or not, and the after-results should be stated.

Asthma is of significance especially when attended by symptoms of emphysema, such as shortness of breath or palpitation, and in relation to heredity, and to the heart.

Bronchitis is a term which is loosely used by proposers. It may mean a week's illness in a healthy subject, or the more severe forms of chronic disease which end in emphysema or embarrassed heart. Asthma and chonic bronchitis are often hereditary. "Bronchitis" is often used to conceal a history of phthisis.

Pneumonia as a rule, and subject to the physical examination, is not of much consequence. Sometimes there may have been several attacks, in which case it is well to enquire as to the duration and severity of the recent attacks as compared with the former. In all cases the physical examination is of great importance. There may be bronchiectasis, or an area of enlarged alveoli left after an attack of pneumonia.

For instance, in one such case a medical man of robust build, doing a very large practice in a southern town, had had pneumonia in his youth. He was insured when about thirty years of age at ordinary rates for an endowment policy, although his right base presented a patch of coarse râles about 3 inches in diameter. This was always present and unattended by a cough or expectoration or evidence of any other disease elsewhere, and was probably due to a rare condition, with some local fibroid induration and tubal dilatation.

"Pneumonia," especially after influenza, may conceal phthisis.

Empyema is not uncommonly given as a past occurrence, and the examiner will note the condition of the chest in the neighbourhood of the operation scar. When an empyema operation has been performed some years

before the examination, no extra premium is usually demanded if the proposer is in good condition otherwise, including the chest.

Consumption is given in the personal history only occasionally, but with increased frequency nowadays. So many patients with slight lesions are now treated in sanatoria with, in some cases, apparently good results, that many of them are insurable, but none of them at ordinary rates. It is probable that most of the cases that come before the insurance examiner will present no evidence of active disease, but the most careful examination will be necessary.

Cases of phthisis also occur which are unknown to the proposer, even to the extent of excavations of the lung. The author knows of one case who had tubercle bacilli in his sputum, and a cavity the size of an orange in his right lung. He had a normal pulse and blood-pressure. He gave the following curious history. He was quite ignorant of the fact that he had any lung affection. He had won three races for one of the two important rowing clubs on the Thames during the preceding summer, he was one of the best boxers of his weight in his rowing club, and in his football club, for which he played Rugby football regularly. He had 5 inches of chest expansion, and was very well developed muscularly. He said he had "a bit of a cough," which he ascribed to cigarette smoking. Fourteen years before, at the age of eighteen, he had lived in lodgings with a companion who used to cough and spit, and subsequently moved to a sanatorium, where he died. At that time when training on the river in the winter, the patient had an attack of dry pleurisy, which was the only illness he remembered. He was taken into an Officers' Training Corps on a special appeal, at his own request, for a special examination by a special medical board, and served with distinction, gaining the Military Cross. He is now in very much the same con-

dition as before the war. I consider him uninsurable, but would hesitate to say how long he will live in his present state of good resistance. He seems to be a "tubercle-carrier."

Another case was that of a medical man who applied for an annuity and claimed special terms because he was a victim of consumption. On examination he was pale with a blanched palate, his pulse was 130, his urine contained albumin, and he had cavities in three lobes of his lung. He was aged about thirty. The author was asked how long the proposer would live and would not give a definite answer. He stated that in his opinion such risks would probably die at the rate of 70 per cent. in the year. An annuity was completed whereby for a purchase price of £700, £230 a year was allowed to the annuitant. The office has already lost over £2,000 on this transaction, and the proposer is now a fibroid wreck, living in a good climate, not in England. These two cases illustrate the truth of one of the late Dr. Gee's aphorisms, wherein he said that one should never make a prognosis in pulmonary phthisis, for, if one does, there is only one thing certain, that one will be wrong.

At the same time cases do happen occasionally where the examiner can only give the history, and then examine as carefully as possible.

As a general rule the case which exhibits the physical signs of even arrested phthisis, with a clear history of the disease recently, is uninsurable. Such a history, when remote, even with the signs of distinct fibroid changes in the lung, and an absence of any evidence of activity, and a long duration since the last symptoms, is only insurable with a very heavy addition. Everything in the whole history of the case has to be taken into account in the final assessment. The examination is of great importance and should always include a measurement of the proposer's blood-pressure.

The author has met with a case in which the proposer stated that he had been away through being "run down" after working for an examination. The proposer added that he was "only" away about three months. There was something in his manner which led to the belief that the explanation of his illness was disingenuous. His medical reference was taken up, and although the physical examination of the chest showed no lesion, the doctor replied that the proposer had had phthisis and had been sent to a sanatorium, where he was "cured." As there were other factors in the case which rendered it doubtful, the case was postponed *sine die*.

This case illustrates the fact that physical signs may be absent when a small lesion is obscured by emphysema of the surrounding lung.

A personal history of consumption, as in other cases of tubercle, is sometimes followed by the development of a different kind of pathology. This is not common, but the author will give two cases which illustrate this point.

Some sixteen or seventeen years ago the head of one of the largest businesses in London, whose name is familiar on the hoardings, was attacked with consumption. He was then a slim young man weighing 9 stone 10 pounds. He was treated for two years in sanatoria, and since then has never been indoors. He has a special arrangement for dining at the end of his dining-room, almost in the open air, and a similar arrangement in his bedroom, which is above the dining-room. He has a good airy office. His business, which depends largely on his own exertions and ingenuity, employs a very large number—some thousands—of dependents. He now weighs well over 14 stone, is a florid heavy man of the gouty type. He has a large cavity in the apex of his left lung which is practically without sign except on examination. He was dismissed by a medical board with the phrase, "You're all right;

A1 for you." He was beginning to appeal when he was told that if he had anything to say he must send it to the proper quarters. The proper quarter was approached through the author and the examination amply supported his exemption.

In another case a gentleman, who was the manager of an important department in one of the great combined offices, had old caries of the spine, with a definite severe anchylosed angular curvature. He was over fifty when he applied for insurance, he was of the fiorid gouty type, and had a high blood-pressure and a trace of albumin. He died of cerebral hæmorrhage a few years later.

It is a difficult thing for a tuberculosis patient to develope the "gouty" type of pathology, but these two cases are illustrations of that result. Neither of them was insurable, scarcely because of their tubercular history, but because of their excessive "rebound" from one extreme to the other. The average patient suffering from tubercle can take a diet without symptoms which would inflict acute disorder on the gouty. Sir Hermann Weber had a very favourable view of patients with tubercle who developed gouty symptoms.

At the time when cases of tubercle come before the insurance examiner there is very seldom any opportunity to examine the sputum. Past history and the mention of the presence or absence of tubercle bacilli should be verified. A case may be uninsurable even when there is no obtainable evidence of the presence of tubercle bacilli. Cases in which tubercle bacilli have been found are usually uninsurable.

Errors of diagnosis, especially those which imply that the tubercle of the lung was non-existent, are often alleged. In these cases, as indeed in all cases, the physical examination, not only of the chest, is all-important. The nature of the family history, the occupation, habits, build, height, and weight, blood-pressure, as well as the physical

signs and the history of parallel disorders, such as, for instance, "indigestion," are factors in assessing the risk. A low blood-pressure is an adverse feature, when there is any reason whatever to suspect a liability to tuberculosis.

Nasal operations, such as for deflected septum, or removal of turbinated bones, do not require much consideration. But operations on the antrum will lead to examination for bronchial catarrh or persistent discharge.

Nasal obstruction leading to mouth breathing should always be noticed.

Throat operations, such as for enlarged tonsils, will suggest a possibility of tubercular glands.

Quinsy and recurrent tonsillitis suggest rheumatism. Note will be taken of the heart.

A history of the removal of adenoids will suggest cervical glands, which will be searched for during the examination.

The scars of operations for cervical glands should always be noted, as well as the scars of cervical abscesses. The history should be given.

Enlarged glands, especially in the neck, nearly always mean tuberculosis. If there are scars they should be described during the examination, and other glands should be sought for. They are of importance in association with the general physique of the proposer, and in regard to a family history of tuberculosis.

CHAPTER XII

THE PERSONAL HISTORY OF CIRCULATORY DISORDERS

PALPITATION may be due to excessive tobacco smoking, to dilatation of the heart, or to valvular disease. It also attends "asthma" and "shortness of breath," or it may be simply due to a nervous temperament, or excessive tea or coffee drinking. It will lead the examiner to a careful examination of the heart and enquiry into habits. Alcohol may cause recurrent attacks of palpitation.

A history of frequent fainting or giddiness or breathlessness will cause the examiner to take a special note, not only of the presence or absence of bruits, but also of the condition of the vessels, the nature of the pulse, its rhythm, its equality, the presence or the absence of intermissions, and the reaction of the pulse and heart to exercise. The urine must be carefully tested.

Fits and fainting attacks may be merely syncope occurring in youth or adolescence from anæmia, excessive exertion, bad nutrition, and rapid growth, and may have little bearing on the risk at the time that the proposer appears. On the other hand, epilepsy may be disguised, sometimes without the proposer's knowledge, under the name of "a fainting attack."

Varicose veins should always be examined. They are of importance in regard to the proposer's occupation, as well as to their extent or severity. They suggest the necessity of a very careful examination of the heart and abdomen, in case of pressure. They may be associated with a history of thrombosis occurring, for instance, after typhoid fever, or in the case of a female proposer as a

complication of pregnancy or childbirth. The thrombosis may be concealed, only the veins being mentioned. Sometimes there may have been a phlebitis before the onset of the varicose veins.

Hæmorrhoids, or piles, will involve similar points at the examination, and, in addition, questions as to habits, and the careful examination of the liver.

Thrombosis is of importance in the past history of a proposer in proportion to the nearness of the thrombosis to the great vessels, and the cause of the thrombosis. The examination will show the type and extent of the collateral circulation which has been set up. An extensive collateral circulation usually demands an extra premium, and always where there is œdema of the limb below. The only exception is in the case of a female proposer, where the thrombosis occurred at a long antecedent childbirth with no further complications. Or in a male, after typhoid fever of a remote date, where the great veins—*e.g.*, the iliac—are not involved, a past thrombosis will not necessitate an extra premium, the health otherwise being good, even if there be some œdema at the ankle, and the proposal is for a short-term endowment policy.

Phlebitis, whether leading to obliteration of a vein or not, usually requires an extra premium, if it be due to a lasting constitutional affection, such as gout.

Embolism of the lungs may be insurable. It would depend upon the nature of the illness causing the embolism, the time which has elapsed since this occurrence, and the physical examination.

Cerebral embolism occurring from heart disease is uninsurable, however long the history may be, if the heart is still affected, as it generally will be found to be.

Heart disease is often admitted by the proposer. It is usually the result of rheumatic fever, but its origin may be unknown to the proposer. It may have been discovered on his application to a medical board for admission to the Army. He may know of it from preceding insurance

examinations only. The insurance of certain forms of heart disease is very commonly effected nowadays, usually by endowment policies with an extra premium depending on the conditions found at the physical examination.

A history of "growing pains" during youth may be elicited.

A history of rheumatism will cause the examiner to examine *and test* the heart.

Rheumatic fever or other form of rheumatism will require that the date and duration of each attack should be stated.

Proposers, mistakenly, often regard a short term in bed as being more favourable than a long rest. In proportion to the youth of the proposer, when the attack of rheumatism occurred, a long treatment is much more favourable to the integrity of the heart than a short duration.

A proposer may or may not know that his heart was affected. In many cases a transient dilatation of the heart with a bruit is followed by a complete recovery, though in most cases true valvular heart disease, if once developed, persists throughout life.

A history of rheumatism is often called "muscular rheumatism," though it was really a true attack of polyarthritis. Proposers will often say that they have had "rheumatism," but not "rheumatic fever." Enquiries should be made in either case.

Gout in the minds of most chief medical officers demands an extra premium. Each case must be assessed on its merits, but a history of gout is important if it has occurred early in life and if there have been several attacks. The duration of each attack should be given. The age at death of either of the parents, if gouty, is of importance. A history of gout always requires an examination of the blood-pressure by the sphygmomanometer, as well as careful testing of the urine. Gout is often given as the cause of a previous phlebitis.

CHAPTER XIII

THE PERSONAL HISTORY OF DISORDERS OF THE DIGESTIVE ORGANS

THE tongue may be affected by syphilis, cancer, ulcer, or soreness from the presence of faulty teeth, or from some forms of dyspepsia. A history of any operation on the tongue or lips—as, for instance, a "wart" being removed—is always considered serious, especially in proposers approaching middle life.

Diseases of the stomach may include various conditions which are described as indigestion or dyspepsia. These always suggest various other questions which must be put to the proposer.

Gastritis was a frequent occurrence during the war among young soldiers. In the majority of cases there were not after-consequences. All cases of indigestion require full examination of the stomach and of the gall bladder.

Ulcer of the stomach or of the duodenum is of great importance in the personal history. The passage of blood *per rectum*, the history of nausea or vomiting, and the treatment adopted, will require investigation. At middle life the cases often require rejection.

There is a danger of malignant disease in the internal scars of an excised ulcer and of a gastro-enterostomy. There are dangers of subsequent operations in cases recently "cured," as well as of adhesions, and occasionally recurrence of symptoms. The best time for insurance after one of these operations is about three years later, and the best age about thirty to thirty-five or forty.

The case should not be taken for a term much beyond fifty. References should be obtained from the medical attendant or from the surgeon who operated.

Operations on the stomach are always regarded as serious, especially during the first year or two subsequently, and in all cases and at all times afterwards in proposers approaching the latter half of their lives.

Liver disease is rarely admitted, but there may have been a liver abscess connected with a history of dysentery. Its importance will depend on the after-effects found at the examination.

Any abdominal operations for disease should demand an enquiry into the after-history of the proposer, as to whether there be any symptoms or loss of weight since.

Jaundice may or may not be of great importance. The ordinary form of catarrhal jaundice usually leaves no after-effects, but the severer forms due to inflammation of the gall-bladder or bile-ducts will require investigation. A history of jaundice suggests questions as to pain, either at the time of the attack or subsequently.

Operations on the gall-bladder are usually regarded as important, though a simple draining and complete recovery some years before may require no addition.

Dysentery should always be investigated as to the last date at which the stools were free from blood or mucus, and whether the proposer is subject to slight attacks of diarrhœa, or mucus or blood in the stools.

Rupture may occur in the groin, or at the navel, or in the scar of an abdominal operation. Enquiry should be made as to whether a truss or belt is worn regularly, and the medical examiner should ascertain whether, if this be so, the truss or belt supports the hernia or controls it effectively.

Umbilical hernia is especially important in heavy proposers. An addition is required if it is irreducible.

A history of appendicitis will lead to questions about

the operation, such as whether the appendix was removed and the convalescence normal, with subsequent freedom from pain, and absence of bulging from a ventral hernia of the scar. Should a belt be required, the fact should be stated.

Fistula operations are always regarded seriously. The author has had the misfortune of diagnosing phthisis in consultation on a patient who had recovered from a fistula operation. A consulting physician of a London hospital, asked to confirm the diagnosis, ridiculed the suggestion immediately afterwards, and treatment was not adopted until too late, death occurring from phthisis some two years later.

Piles may or may not be of importance. The proposer should be asked whether they bleed, what symptoms he has, or has had, whether they have been operated upon, and if so whether they were cured or not. They will suggest a careful examination as regards habits, the heart, and the liver.

CHAPTER XIV

THE PERSONAL HISTORY OF NERVOUS DISORDERS

APOPLEXY is a term which is often loosely used by the public. It may mean, in an old proposer, that he has had a real cerebral hæmorrhage. It may imply embolism. It is very seldom given in the past history of the proposer. It always demands most careful examination of the heart and bloodvessels (including the sphygmomanometer measurement of the systolic blood-pressure), also of the urine.

"Fits" or "fainting attacks" often conceal epilepsy. The fullest information should be obtained from the proposer as to their occurrence and frequency. For instance, a fainting attack may only have occurred in boyhood at the sight of blood, and be of no consequence, or due to heart trouble, or it may be part of a series of epileptic seizures, major or minor. Such a history will cause the examiner to pay special attention to the heart, and to examine the proposer for scars and minor injuries, such as are left behind by falling on the face or head, or by biting the tongue. Scars of wounds on the face and scalp, described as accidents from "fainting," will call for a medical reference.

Epilepsy may be admitted, and, however the proposer may qualify his statements, the medical reference should always be requested.

Occasionally a proposer will state that he had "brain fever" or "meningitis." At the time when the proposer appears for insurance examination, a past history of this

kind will not usually involve an extra risk, if the proposer is normal on physical examination.

A former history of infantile paralysis will require an addition according to the general condition of the proposer, and as to whether the vital organs are embarrassed—as, for instance, by a paralysis and atrophy of the intercostal muscles.

Neurasthenia, whether due to the war, or occurring as a "nervous breakdown," usually ascribed to overwork, will suggest to the examiner enquiries as to power of sleeping, treatment, recovery, or the reverse, and if recovered, the time that has elapsed since.

It is a term which is used very loosely, both by medical practitioners and by proposers. It has a bearing on increase or decrease of weight, on the general appearance of the candidate, and on the examination of the nervous system.

For instance, a statement from a proposer of thirty that he had a nervous breakdown when working too hard for an examination at age twenty, with complete recovery after one month's rest, will have little effect on his assessment. On the other hand, recurrent attacks and recent treatment, with insomnia of frequent occurrence, and signs of poor nutrition, may need a larger or smaller addition to the premium, or even postponement or declension. Such cases, in addition to careful examination, nearly always require the additional information that can be furnished by the medical attendants.

Mental disorder is rarely admitted by a proposer, but the author has met with cases that have been under certificate. An extra premium, perhaps with the exclusion of "suicide," is usually required.

Both in neurasthenia and in mental disorders of any kind there is always a risk of suicide. Especially is this the case if the family history suggests a liability to mental breakdown, or suicide.

CHAPTER XV

THE PERSONAL HISTORY OF GENITO-URINARY DISORDERS

URINARY and generative organ disorders may include venereal disease, or stone, or nephritis. More rarely, there may have been cystitis, a movable kidney, a hydronephrosis, or an enlarged prostate.

Venereal disease is usually either gonorrhœa or syphilis, or both. In the case of gonorrhœa, enquiry should be made as to there having been at any time any necessity to pass instruments, or whether there is, or has been, any difficulty in micturition.

A history of stricture operations, or dilatations, usually requires an extra premium, and an endowment policy, although much will depend upon the age of the proposer when the stricture was detected. The older the proposer when he was dilated or operated upon the worse the risk.

In the case of syphilis, the date of the last manifestation of the disease, its nature and site, should be ascertained. If recent the case should be postponed, as also if it in any way involved the central nervous system—as, for instance, by severe headache, relieved by anti-syphilitic remedies, or double vision. The age at which the disease was acquired is of importance, and the time which has elapsed, since infection, when the proposer comes before the examiner. Syphilis acquired late in life is best left alone.

Syphilis will suggest questions as to the treatment which was adopted, its duration, and the name of the

medical attendant or consultants who treated the case. The medical examiner will pay special attention to the habits, heart sounds, bloodvessels, the maximum systolic blood-pressure, and the nervous system.

Syphilis and gonorrhœa are often concealed. Many men may forget that they ever had syphilis. Others remember either of these diseases as being of but little consequence in life assurance. They may or may not have much weight, but the facts should always be stated.

Stone will suggest enquiry as to operation and situation.

Renal colic will suggest enquiry into its frequency, and an examination for tenderness of either kidney or ureter. Any treatment that has been followed out since the attack should be stated, and also any dietetic rules that have been followed.

Whether blood has been passed in the water or not, and whether there has been any occasional pain since the renal colic, should always be elicited.

The history of renal colic and the passage of a stone demands a careful examination of the urine, preferably microscopical. A skiagram may be necessary.

Cases with a history of passing a calculus, and the presence of crystals and mucus in the urine, require an extra premium. If there has been hæmaturia since the attack, or the proposer has pus in the urine, declension is usually necessary. An operation for stone requires reference to the surgeon or general practitioner. The removal of a kidney is a very doubtful hazard, though a term insurance may occasionally be effected.

Nephritis, occurring from trench fever or war exposure, seems to have a better prognosis than persistent albuminuria resulting from scarlet fever in childhood. The author never regards albuminuria as being a normal condition. He does not consider that "physiological" or "static" albuminuria is to be regarded as an absolutely normal risk for insurance. On this he will speak later.

A history of nephritis, even if the urine be found free from albumin, may have left after-effects. A high blood-pressure or a hypertrophied heart may be found. The blood-pressure should always be taken if there is a history of nephritis, even in young proposers.

Sugar in the urine may be within the knowledge of the proposer as a former occurrence, or the office may receive a hint that he has had sugar in his urine on some former occasion, whether it was found by his medical attendant or at a previous proposal. The fullest enquiry should be made as to his diet since the sugar was discovered, and whether any drugs have been taken to prevent the occurrence of sugar, or the failure of the test employed, and, especially, what his diet has been immediately before examination.

The author on one occasion had a young man before him who was being insured on his parents' proposal, and there was a very doubtful reduction of Fehling's solution. On being asked about his diet, he stated that he took no bread or starchy foods and no sweets of any kind. On asking him whether he was taking any medicine, he answered, "Only some codein pills." Proposers are sometimes prepared for examination by unscrupulous people, but in this case the youth had not learnt his lesson properly.

On another occasion a tall, slight man was stated to have retired from business at forty-seven owing to his "desire to devote himself to philanthropic work." A brother had died of diabetes at the same age. The urine was normal. His medical reference was given to a doctor, who was stated to have treated him merely for overwork before his retirement. Suspicion was aroused, not by any fact discovered at the examination, but by a certain broker, who had brought the case to the office, saying to the author that he "hoped to bring him many more cases," "that this was a business matter," and "that

he would be very grateful if the author would use his influence with the office to get the case settled that very day." This caused the author to advise that the office should delay the case until the medical reference should have been received. The office at first demurred, but the reference form was issued. On its receipt the doctor stated that he had treated the proposer for two years for diabetes. The author thought that it did not tally with the usual facts of life that a man should retire at forty-seven from a successful business to devote himself to charity, or that such urgency was required to get the case accepted.

The relation of glycosuria to past syphilis should also be remembered.

Cystitis, in proposers over middle age, will raise grave suspicion, even if the urine be apparently normal when tested.

Enlarged prostate is usually a bar to insurance, until two years after a cure by operation.

Albuminuria, apart from nephritis, is sometimes stated by a proposer to have occurred in youth, and to have been treated. It may even be stated that it was the cause of a previous rejection or postponement when applying for life insurance. A very careful examination of the urine is necessary, and if albumin is found, the urine should be submitted to a laboratory for microscopic examination.

CHAPTER XVI

THE PERSONAL HISTORY OF TUMOURS, OPERATIONS, GASSING, OTORRHŒA, MASTOID DISEASE

TUMOURS may be innocent or malignant. The greatest caution should be exercised by the examiner in accepting a proposer with a history of tumour, if it has been removed and is stated to be of an innocent nature. In cases of doubt the name of the medical or surgical attendant should be furnished, and the office advised to refer to him for full particulars, including pathological reports if available. In the case of certain situations—for instance, the tongue or the breast—this should always be done. The office will use its own discretion as to following up the case or dealing with it by postponement or rejection.

Where cysts or tumours are still present the attention of the office should be called to the fact, the nature should be stated, and in cases of doubt the office should be advised to defer the risk until the nature of the cyst or tumour can be ascertained. The proposer should always be asked to declare whether he intends to have any operation done. Some offices will exclude the risk of a possible operation for a known condition, and subsequently, when recovery is assured, grant a clean policy.

Cysts on the head and neck may have been removed, and are usually innocent. It is best, however, to secure the medical reference in all cases where there has been an operation, though this cannot always be carried out when the sum insured is small.

Past operations will require an examination of the

scar. The nature of the disease for which the operation was undertaken should be stated, and the time at which the operation was done. In all cases of doubt offices should be asked to refer to the surgeon, and he should be asked to supply information as to any examination of the tissues that has been made by a pathologist. For instance, a large ovarian tumour, or fibroid tumour of the womb, may have been removed some years before in an otherwise healthy proposer, leaving a large sound scar, and the life may be taken at average rates. On the other hand, a small wart may have been removed from the tongue a year or less before insurance, and the case may be uninsurable.

A proposer once applied for special consideration as an annuitant, because she had been operated upon for cancer. The last operation had taken place some nine years previously. There had been five or six operations before this. She was granted a comparatively large annuity for her age, but died before the first half-yearly payment of the annuity from recurrent cancer.

In another case, which may not have been honest, a lady, living in the country, who insisted upon her own medical man's examination and got a perfectly clear report, died one and a half years later of cancer of the womb. In this case there is every reason to believe that the medical attendant knew nothing whatever about the condition of the organ at the time of insurance. But it was discovered later through private sources that the proposer had been independently to see a London consultant, whose name could not be ascertained, shortly before the insurance was effected. No further information was obtainable, and the loss, a considerable one, was paid.

The risk of cancer is an increasing one, and every care should be exercised in all cases of cysts and tumours, especially in proposers approaching middle life.

Injuries and operations for injuries in proposer's previous history should be stated briefly. Of injuries, those resulting in loss of parts of the body are of importance in proportion to the amount of tissue lost. For instance, an amputation above the knee is more important than one below the knee, whether it be due to an accident or to war. The loss of function is of little importance in life insurance, though it may be of great importance for accident insurance. As a general rule, accidents involving the loss of the arm are less important than those involving the loss of the leg, owing to the greater loss of exercise in the latter instance.

If the amputation has occurred from disease or hæmorrhage, on the other hand, the facts should be stated, as they may have a very important bearing on the proposal. The time that has elapsed since the last operation, and the result, should also be given.

If a proposer has been "gassed," the examiner should enquire as to the duration of the ensuing illness and state the facts.

"Hæmophilics" or "bleeders" are bad lives to insure, if there be any history of a relative dying of hæmorrhage after epistaxis, or a tooth extraction, or any other circumstance, trifling in itself, but of grave significance in case the proposer should have to undergo any operation.

Otorrhœa ("discharge from the ears," "running from the ears") may have been present after an attack of scarlet fever, influenza, adenoid operations, adenoids, or acute septic conditions of the nose and throat. The examiner should enquire as to the last date at which the discharge appeared, or whether it recurs when he has a bad cold. There may have been a mastoid operation, in which case there may still be a discharge or there may not. The names of any medical practitioners, including consultants who have attended the condition, should be stated.

As a rule, insurance offices do not make fine distinctions between various degrees of otorrhœa. The ear or ears should be examined if possible, and the hearing tested roughly, as by holding a watch at various distances from the affected ear. Some offices will insist on a special report being obtained from an authority as a preliminary to consideration of the risk, if the amount of the insurance be considerable. As a general rule, cases with a history of chronic otorrhœa require from three to five years' addition, or exclusion of this risk from the policy.

Mastoid operations do not as a rule involve an extra risk, but in some cases, there may still be some diseased bone, and the case may be hazardous.

CHAPTER XVII

THE PERSONAL HISTORY OF FEMALES

QUESTIONS as to *female history* should be answered exactly and fully.

They usually include questions about menstrual history, the history as regards child-bearing, the absence of pregnancy at the time of insurance, any difficulty or danger that existed in previous pregnancies or child-bearing, and whether there has been any disease or disorders of the female generative organs.

In cases of single women who have borne children, or had miscarriages, as a rule there is no information obtainable from the proposer, unless it is volunteered, and the examiner has to rely on the friends' or medical reference. The author has met with one case where the proposer, an actress, was examined in the presence of her own medical attendant, who supplied, at the time, the information necessary to form an adequate idea of the risk.

Should there be any information that the proposer has had one or more miscarriages, the examiner will look for any corroborative evidence of syphilis.

Women who have suffered great difficulty in delivery at previous pregnancies and childbirth may require exclusion of the risk.

It is rarely that an examiner is competent to form an opinion as to past diseases which may have necessitated operations on the female organs. Should there be a history of operations or disease, the fullest medical information should be obtained from the proposer, and a reference

should be desired from the medical attendant or specialist consulted.

Many offices ask no extra premium from women of the child-bearing age, where there have been two or three previous normal births, nor from single women with no immediate prospect of getting married. Some offices, on the other hand, ask an extra premium during the child-bearing age. After the child-bearing age women's lives are better than men's, other things being equal.

If the proposer be pregnant for the first time, it is customary for the office to demand an extra premium, which is usually about 1 per cent. on the sum assured. In later pregnancies, with a history of normal labours, an extra may or may not be required. The examiner should call the attention of the office to the fact of pregnancy existing.

Women who have never menstruated are occasionally met with, and although apparently normal, there is usually some infantilism. Shortly after puberty these cases require careful investigation, notably in regard to the possibility of tuberculosis existing in a latent form. A special medical reference is often required.

In most offices nowadays no extra is charged for multiparæ, provided that the labours have been without complications.

After the menopause a female proposer has, as a rule, a higher expectation than a male.

CHAPTER XVIII

GENERAL RULES AS TO FAMILY AND PERSONAL HISTORY

THERE are certain general rules which apply to the use of the family and personal history in assessing lives. The variations in family and personal history are, of course, innumerable.

When assessing lives the question that the medical examiner should ask himself is, Has the person before him as good a *chance* of living to the full span of life as an average man ?

It is, of course, impossible to define what is meant by an average life. This statement does not only apply to the family and personal history and habits of the proposer, but also to the physical examination, as we shall see later.

Taking the occupation alone, the insurance offices will make a clergyman pay the same rate as a butcher, although their mortality curves are very different.

The family history of phthisis may be of the greatest importance in one individual whose occupation has a high death-rate from phthisis, but of very little consequence in another individual whose occupation is wholesome, habits exemplary, and physique robust.

The author would say that the most important facts to be elucidated by the medical examiner in regard to family history are:

1. Consumption.

2. Arterio-sclerosis, as illustrated by Bright's disease, angina pectoris, apoplexy, and gout or syphilis.

3. The resemblance or non-resemblance of the proposer in features and build, as ascertained at the physical examination, to the long-lived or short-lived members of his family.

In regard to personal history, he would say that the most important factors in assessing the risk are:

1. Tendency to chest affections.

2. Occupation and habits, which must usually be considered together.

3. Tendencies to cardio-vascular diseases, such as may be inferred from a history of rheumatism, syphilis, and gout.

Proposers for life insurance are rarely "rated up" on family history or personal history alone, apart from the physical examination. But the family and personal history becomes of the greatest importance when the physical examination confirms a tendency which can only be inferred otherwise than by physical examination.

As a general rule, people who come of long-lived families are themselves long-lived, and members of a large family all in good health are generally better lives than members of small families, though the latter may be in good health.

This is a generalization derived from experience, and must, of course, be discounted by the use of common sense. An epidemic of scarlet fever or diphtheria, or the loss of two or three brothers from the after-consequences of war, may at first sight suggest an early liability to breakdown.

The use of the personal history is to put the examiner on his guard when he comes to the physical examination. For instance, such a trifling affection as piles will lead the experienced examiner to pay particular attention in some proposers to the habits, liver, and cardio-vascular condition. A past history of gonorrhœa will cause him to enquire into difficulties of micturition, and whether

instruments have been passed at any time. A past history of syphilis will call for particular attention to the heart, blood-pressure, and nervous system. Recent "influenza" may conceal the onset of phthisis.

The proposer may not really know much about his parents if they have died young, or his relatives if he is away from home. If any doubt exists in the examiner's mind, he should obtain, if possible, the date of the death, the place at which it occurred, and the full name of the relative who has died, and enter them on his examination form.

The family and personal history, when carefully obtained, will often supply the examiner with important clues which will enable him to direct his attention to the height, weight, heart, chest, bloodvessels, nervous system, and urine respectively when he comes to the physical examination.

CHAPTER XIX

THE METHOD OF CONDUCTING THE EXAMINATION

WHEN the examiner commences the physical examination, which is a record of the present state of the proposer, he must bear in mind the indications afforded by his family and personal history. Either of them may, wilfully or inadvertently, be incomplete. The examination should, therefore, be always thorough and careful. It should be conducted without any third party being present, except occasionally in female lives.

The room should be well lighted, either by daylight, which is preferable, or by artificial light, which should be adequate.

The author usually adopts the following procedure:

Having completed the first part of the examination form, which includes the family and personal history, he asks the proposer to step on the weighing machine. The weight is usually given in the usual indoor clothing. Should it not be so, the fact should be stated, as, for instance, "without coat and vest." The height is taken, and if unusually high heels are worn by female proposers, the fact should be noted.

The proposer is then asked to pass urine, if a male, in the vessel provided for the purpose. While the proposer is thus engaged, he is observed, and such facts as may have a bearing are recorded, as well as his height and weight. He may be prematurely bald, or grey, and a question may be asked as to whether this is a family characteristic, which should be noted. Any defect of gait,

deformity, or peculiarity can also be noted. The proposer may be asked if he has any children, and, if so, their ages, and whether they are healthy.

The proposer is asked to remove his coat and vest, to loosen his braces, and pull up his shirt, and lie down on the couch. While he does this the urine is examined.

The heart is examined, while breathing, and subsequently while still, the chest being in the position of expiration. The heart is then percussed, the abdomen palpated, and the solid viscera examined. The pulse may also be observed, the mouth examined, and the knee jerks obtained.

The proposer is then asked to stand up, and raise his shirt up to the shoulders, and the lungs are examined, the heart again examined while breathing, and in the still position in expiration, and the chest and abdomen measured.

The pulse is taken again, and the absence or presence of hernia or a tendency thereto noted in the usual manner. The proposer is then asked to turn his back, raise his shirt to the shoulders, and turn it forwards on his neck, so that the whole of the back of the thorax is exposed. The chest is again examined from the back, by inspection, palpation, percussion, and auscultation, as from the front.

Any defects of the skin—such as pigmented moles, severe acne scars, or psoriasis, or rashes—are noted.

Should there be a statement as to varicose veins, or an amputation of the limbs, the trousers are put down to the ankles and the condition examined.

The examination may require further steps—as, for instance, the testing of the heart for exercise reaction or taking the blood-pressure; but as a rule the examination is now complete.

It takes, from his appearance in the room, and commencing to answer the questions as to personal and

family history, fifteen to twenty minutes to complete the examination.

While he is dressing, the facts are entered on the examination form.

When he is dressed the pulse may be taken again, sitting, and the knee jerks may be obtained, if not already observed.

Should the candidate be a woman, she is asked to remove her outer clothing, and loosen her stays, and the procedure is similar, except that the urine is not asked for till the completion of the examination, when the examiner withdraws, *with the papers*, after indicating where he will look for the specimen of urine, and bidding the patient "good-day."

In some offices the matron of the typists' department, or some other woman, is in the room during the examination of women, and during the passage of urine to prevent fraud in the latter case. The papers are completed in an adjoining room, excepting the urine examination, which is subsequently added.

The chief points to be ascertained in the physical examination are:

1. Whether the result conforms to the family history or not.

2. Whether the present state, without the personal or family history, suggests the liability to disease, either as a predisposition or a vulnerability.

3. Whether there are any defects which suggest the existence of an extra risk.

CHAPTER XX

THE PERSONAL TRAITS: HEIGHT, WEIGHT, ETC.

FAMILY traits and personal peculiarities include height, weight, build, and such things as premature baldness, greyness, sallow complexion, high degrees of myopia or hypermetropia, as well as possible deformities, such as moles, hare-lip, cleft palate, accessory fingers, and the like.

Although as a general rule great height and low weight are adverse factors, as is also extreme shortness, yet many such cases are insurable at average rates, provided that these qualities are present in other members of the family, particularly ancestors or parents, who have been long-lived. For instance, the author has met a case where the father and the grandfather, both living to be well over seventy, and the proposer aged forty-five, in good health, were all about 5 feet in height, and the proposer presented no abnormality. In other risks, which are more common, there may be low weight. A man of intense vitality was 5 feet 11 inches in height, and weighed 9½ stone at age forty-five. His father lived to seventy-eight and his mother to eighty, and were of the same build. Both these proposers were accepted as average risks.

If a proposer be prematurely bald or grey, it should always be stated whether this is a family characteristic, and the history of the family as regards longevity should be taken into account.

Any deformity, congenital or acquired, should be noted,

whether it affects the risk or not. It is important for identification.

In regard to height and weight, there are some general factors which are of importance.

Most offices consider that 20 per cent. variation from the average may be allowed. Extremes are usually considered to be detrimental signs. The man who is abnormally tall, even if he is well built, is not as good a life as the man who is of medium height. Dwarfs are to be regarded similarly. There are some families in which great height or extreme shortness may be consistent with longevity. When such abnormal height or weight presents itself to the examiner, he should ask the proposer whether his family are like him.

The race of proposers has something to do with their height and weight. Although the natives of the British Isles, wherever they may be in the world, exhibit the same anthropological characteristics, yet the Welshman or Cornishman is usually shorter than the average Englishman. The Irishman of the South and West is usually taller. Class also has a good deal to do with height and weight. The farmer is generally a bigger man than his labourers. The landowner and aristocrat is also often a bigger man. But every variety will be found in all classes of community, consistently with the probable average longevity of the individual.

The weight is usually taken fully dressed, but the insurance papers often include a question as to whether the weight is increasing or decreasing. The proposer will often know his weight when he is naked. It should be remembered that the average weight of the clothes when dressed for indoors is usually about one-fourteenth of the body weight. The weight usually increases during the winter, and decreases during the summer, so that the proportion of the weight of winter clothes and the weight of summer clothes is not much disturbed.

Extremes of weight are always regarded as detrimental, and it is difficult to say whether excessive overweight is a more adverse feature than excessive underweight or not. As a rule, most offices regard obesity, especially abdominal obesity, as a very detrimental factor in assessing the risk.

The variations in weight of more than 20 per cent. from the normal are usually considered to be adverse. This does not mean that even variations up to 20 per cent. may be considered acceptable as an average risk. The proposer who has a bad family history, or a personal history that suggests tubercle, and whose weight is below average for his height, is an under-average risk. The proposer whose weight is above the average for his height, and whose occupation, habits, and personal condition suggest in any way a liability to vascular degeneration, is also an under-average risk.

With the height and weight may be stated the general muscular development. Some proposers, owing to the nature of their occupation or habits, may be very muscular, but it does not follow that they are better lives than those whose occupation or habits lead to soft and ill-developed muscles. There are proposers whose ability for muscular work and physical energy is comparable to the other animal pleasures of the gross liver. There are proposers whose habits are sedentary or even lazy, who are perfectly good lives, and are comparable to the people who have refined and delicate tastes in their food and drink. But the common combination of laziness and excessive eating and drinking is an adverse factor.

An increasing or decreasing weight is significant if it has happened in a few months. A rapid increase in weight will cause the examiner to think of habits, which may be associated with increase in the use of malted liquors, or decrease in exercise, altered circumstances in life, and incidental gross living, ascites, dropsy, or other explanation, all of which will require investigation and a

statement. A rapid loss of weight may be due to nervous depression, phthisis, cancer, diabetes, or altered circumstances leading to poor living.

Sudden changes are usually adverse features. The examiner should be cautious in estimating sudden increase or decrease in weight as compared with a preceding examination. When the proposer took his weight previously, the condition of the clothing may have been different from that at which the weight is now observed. The proposer should be asked under what circumstances, whether dressed or undressed, he last observed his weight, if there is a discrepancy.

A rapid increase in weight is not uncommon among women at the change of life. It may persist throughout later life, or the proposer may return to the more usual weight shortly after the menopause. Overweight in women is of less consequence after middle life than overweight in men, but the habits as regards the abuse of alcohol must be ascertained.

Various tables have been devised for the use of insurance examiners.

The following tables from the American Medico-Actuarial Mortality Investigation are in use largely among English companies:

MEN

Heights. *Ft. Ins.*	*Ages.* 15–19	*Ages.* 20–24	*Ages.* 25–29	*Ages.* 30–34	*Ages.* 35–39	*Ages.* 40–44	*Ages.* 45–49	*Ages.* 50 *and Upwards.*
5	**113** 8·1	**119** 8·7	**124** 8·12	**127** 9·1	**129** 9·3	**132** 9·6	**134** 9·8	**135** 9·9
5·1	**115** 8·3	**121** 8·9	**126** 9·0	**129** 9·3	**131** 9·5	**134** 9·8	**136** 9·10	**137** 9·11
5·2	**118** 8·6	**124** 8·12	**128** 9·2	**131** 9·5	**133** 9·7	**136** 9·10	**138** 9·12	**139** 9·13
5·3	**121** 8·9	**127** 9·1	**131** 9·5	**134** 9·8	**136** 9·10	**139** 9·13	**141** 10·1	**142** 10·2
5·4	**124** 8·12	**131** 9·5	**134** 9·8	**137** 9·11	**140** 10·0	**142** 10·2	**144** 10·4	**145** 10·5
5·5	**128** 9·2	**135** 9·9	**138** 9·12	**141** 10·1	**144** 10·4	**146** 10·6	**148** 10·8	**149** 10·9
5·6	**132** 9·6	**139** 9·13	**142** 10·2	**145** 10·5	**148** 10·8	**150** 10·10	**152** 10·12	**153** 10·13
5·7	**136** 9·10	**142** 10·2	**146** 10·6	**149** 10·9	**152** 10·12	**154** 11·0	**156** 11·2	**157** 11·3
5·8	**140** 10·0	**146** 10·6	**150** 10·10	**154** 11·0	**157** 11·3	**159** 11·5	**161** 11·7	**162** 11·8
5·9	**144** 10·4	**150** 10·10	**154** 11·0	**158** 11·4	**162** 11·8	**164** 11·10	**166** 11·12	**167** 11·13
5·10	**148** 10·8	**154** 11·0	**158** 11·4	**163** 11·9	**167** 11·13	**169** 12·1	**171** 12·3	**172** 12·4
5·11	**153** 10·13	**158** 11·4	**163** 11·9	**168** 12·0	**172** 12·4	**175** 12·7	**177** 12·9	**178** 12·10
6	**158** 11·4	**163** 11·9	**169** 12·1	**174** 12·6	**178** 12·10	**181** 12·13	**183** 13·1	**184** 13·2
6·1	**163** 11·9	**168** 12·0	**175** 12·7	**180** 12·12	**184** 13·2	**187** 13·5	**190** 13·8	**191** 13·9
6·2	**168** 12·0	**173** 12·5	**181** 12·13	**186** 13·4	**191** 13·9	**194** 13·12	**197** 14·1	**198** 14·2
6·3	**173** 12·5	**178** 12·10	**187** 13·5	**192** 13·10	**197** 14·1	**201** 14·5	**204** 14·8	**205** 14·9
6·4	**178** 12·10	**183** 13·1	**192** 13·10	**198** 14·2	**203** 14·7	**208** 14·12	**211** 15·1	**212** 15·2

In each division, heavy type shows weight in pounds. Light type shows weight in stones and pounds.
(Weights given include ordinary indoor clothing.)

WOMEN

Heights. *Ft. Ins.*	*Ages.* 15–19	*Ages.* 20–24	*Ages.* 25–29	*Ages.* 30–34	*Ages.* 35–39	*Ages.* 40–44	*Ages.* 45–49	*Ages.* 50 *and Upwards.*
4·10	**108** 7·10	**111** 7·13	**114** 8·2	**117** 8·5	**120** 8·8	**124** 8·12	**127** 9·1	**129** 9·3
4·11	**110** 7·12	**113** 8·1	**116** 8·4	**119** 8·7	**122** 8·10	**126** 9·0	**129** 9·3	**131** 9·5
5	**112** 8·0	**115** 8·3	**118** 8·6	**121** 8·9	**124** 8·12	**128** 9·2	**131** 9·5	**133** 9·7
5·1	**114** 8·2	**117** 8·5	**120** 8·8	**123** 8·11	**126** 9·0	**130** 9·4	**133** 9·7	**135** 9·9
5·2	**117** 8·5	**120** 8·8	**122** 8·10	**125** 8·13	**129** 9·3	**133** 9·7	**136** 9·10	**138** 9·12
5·3	**120** 8·8	**123** 8·11	**125** 8·13	**128** 9·2	**132** 9·6	**136** 9·10	**139** 9·13	**141** 10·1
5·4	**123** 8·11	**126** 9·0	**129** 9·3	**132** 9·6	**136** 9·10	**139** 9·13	**142** 10·2	**144** 10·4
5·5	**126** 9·0	**129** 9·3	**132** 9·6	**136** 9·10	**140** 10·0	**143** 10·3	**146** 10·6	**148** 10·8
5·6	**130** 9·4	**133** 9·7	**136** 9·10	**140** 10·0	**144** 10·4	**147** 10·7	**151** 10·11	**152** 10·12
5·7	**134** 9·8	**137** 9·11	**140** 10·0	**144** 10·4	**148** 10·8	**151** 10·11	**155** 11·1	**157** 11·3
5·8	**138** 9·12	**141** 10·1	**144** 10·4	**148** 10·8	**152** 10·12	**155** 11·1	**159** 11·5	**162** 11·8
5·9	**141** 10·1	**145** 10·5	**148** 10·8	**152** 10·12	**156** 11·2	**159** 11·5	**163** 11·9	**166** 11·12
5·10	**145** 10·5	**149** 10·9	**152** 10·12	**155** 11·1	**159** 11·5	**162** 11·8	**166** 11·12	**170** 12·2
5·11	**150** 10·10	**153** 10·13	**155** 11·1	**158** 11·4	**162** 11·8	**166** 11·12	**170** 12·2	**174** 12·6
6	**155** 11·1	**157** 11·3	**159** 11·5	**162** 11·8	**165** 11·11	**169** 12·1	**173** 12·5	**177** 12·9

In each division, heavy type shows weight in pounds. Light type shows weight in stones and pounds.
(Weights given include ordinary indoor clothing.)

TABLE SHOWING (TO NEAREST POUND) PERCENTAGES FROM 10 TO 50 PER CENT., OF WEIGHTS FROM 100 TO 210 LBS.

Weights.		10%	15%	20%	25%	30%	35%	40%	45%	50%
St. Lbs.	*Lbs.*									
7·2	100	10	15	20	25	30	35	40	45	50
7·12	110	11	16	22	27	33	38	44	49	55
8·8	120	12	18	24	30	36	42	48	54	60
9·4	130	13	19	26	32	39	45	52	58	65
10·0	140	14	21	28	35	42	49	56	63	70
10·10	150	15	22	30	37	45	52	60	67	75
11·6	160	16	24	32	40	48	56	64	72	80
12·2	170	17	25	34	42	51	59	68	76	85
12·12	180	18	27	36	45	54	63	72	81	90
13·8	190	19	28	38	47	57	66	76	85	95
14·4	200	20	30	40	50	60	70	80	90	100
15·0	210	21	31	42	52	63	73	84	94	105

The use of this table may be illustrated as follows: Suppose the weight of a male aged 36, and height 5 ft. 4 ins., is found to be 49 lbs. in excess of that proper for his age and height, which is 140 lbs., the table shows the excess is 35 per cent.

CHAPTER XXI

THE EXAMINATION OF THE LUNGS

WHEN the examiner has the use of the ordinary examination couch the lungs may be readily examined in front in the recumbent position, and behind in the sitting position with the proposer leaning forward over his knees, the examiner standing or sitting behind him.

In examining the lungs for life insurance, it must be remembered that the object is to detect the abnormal, and when detected to decide whether the abnormality is one which will affect longevity or not, or is of such a nature as to raise a doubt. This means that the examiner is not desired to make a minute differential diagnosis between the various classes of harmful abnormality that may be present in the thorax.

There are certain essential points in the observation of the chest which, in conjunction with the personal and family history, enable the examiner to form an opinion as to whether the proposer has an average chance of living or not.

A rapid glance at the chest from the front will tell the examiner if the chest is of normal shape, and whether both sides are moving equally and well. He will observe this also from the back of the chest, whether he examines him while sitting on the couch or while standing. He will note any scar, such as that of an empyema operation.

He will see whether there is any asymmetry of the chest, or bulging at any point—as, for instance, at the præcordium —or sinking in from old rickets or from whooping-cough, and whether there are any rashes on the skin, or scars, or enlarged veins.

He will also feel, when he passes his hands over the chest, whether there are any abnormalities in the chest wall, and perhaps whether there is any coarse rhonchus.

An empyema scar may be unaccompanied by any other physical signs, and require no addition to the premium; but contraction of the chest from empyema may require a considerable addition, or even declension.

When the proposer stands up the measurement of the chest should be taken. The abdominal measurement may conveniently be taken at the same time.

Some offices desire that the proposer should deflate his chest as much as possible, and then expand it as much as possible, measuring both extremes at the level of the nipples in males or under the axillæ in females.

Some proposers with bad habits of breathing have great difficulty in moving their chest properly, and it is quite common for a proposer, when asked to empty his chest, merely to slightly diminish its circumference, the greater part of his breathing being of the abdominal type. The examiner should show the proposer the movement that he desires, and it has often been possible with proposers whose normal amplitude of movement was barely 1 inch to secure a movement of 3 inches or more.

The average expansion of the chest should be about 10 per cent. of the measurement when the proposer is in the position of full expiration. The chest measurement in expiration should exceed the abdominal measurement at the navel by about 10 per cent. also in males.

Since the war many proposers have much more than this, and it is not unusual to find a chest which moves from 30 inches to 35, or from 33 to 38 among those who have served in the Army.

The shape of the chest varies very much. Some proposers have a long, narrow chest, others have a broad, short chest, both of which may be perfectly normal. Chests which are cylindrical in section are usually said

to be of the phthinoid type, even more so than the flat, shallow chest. The phthinoid chest is often a persistence of the infantile type. There are exceptions in this as in everything else, and the chest which has a good expansion usually counterbalances the tendency to disease which may be inferred from its shape. On the other hand, a poor expansion may mean a tendency to phthisis in a small chest, or already established emphysema in a large one. Either of these is of importance in association with the personal history of winter cough or asthma. Cases that have been in sanatoria, or that have been trained in breathing for chest disease, will often have large movements in respiration, and the examiner must be on his guard.

The clavicular regions should be noticed, especially as to whether there is loss of movement, prominence of the clavicles, or asymmetry, especially as to deep sulci above and below the clavicle on one side or the other.

Torticollis should be noted. If there is no contraction of the upper part of the chest, it requires no extra premium.

The condition of the spine should be noted.

Angular curvature is to be described, and usually demands an extra premium, or even rejection, especially if the lungs are cramped. Angular curvature occurring in childhood and leaving a permanent "hunchback" is sometimes insurable, but it is to be remembered that such cases sometimes develop a high-pressure tendency, and that an endowment policy may be required. Feeble cases should be postponed or declined.

Lateral curvature, due to poor nutrition, and often also to reading in bed in the lateral position, or stooping sideways over lessons, can be accepted if the proposer be in good health generally, including the lungs. If secondary to chest disease, such as lung fibrosis, or empyema, insurance will depend on the primary cause, and rejection may be required.

Percussion should always be systematic and over both sides of the chest. As most of these chests are free from abnormalities, it takes but a few seconds to percuss the apices in front, the roots of the lungs and the bases behind, the front of the chest, the cardiac area of dulness, and the spleen and liver regions. At the back the examiner will pay special attention to the apices, and the roots of both lungs, the liver dulness, and he will look for areas of diminished resonance in other parts of the chest.

When there is a suspicion of tubercle—as, for instance, in the past history of the proposer, or from the presence of enlarged glands, or the scars of operations for glandular abscesses in the neck, or from the history of winter cough—the examiner should be particularly careful to test not only the apices front and back, and the roots of both lungs, but also the lateral borders of both lungs, especially high in the axillæ.

He should note particularly any area of diminished resonance for further observation during auscultation.

He will also note hyper-resonance, and diminution of the area of cardiac dulness, should the proposer be emphysematous.

Percussion should be both light and forcible. The chest should be gone over with light percussion, when small areas of loss of resonance such as are due to thickened pleura will be detected. It should always be gone over with more forcible percussion to detect deeper areas of consolidation or disease of the mediastinal glands, or other abnormalities. In the author's experience light percussion affords more information than heavy percussion, even in the deeper areas, though he uses both. He always uses the light percussion first. A heavy percussion will bring up resonance, even when there are considerable areas of thickened pleura, or over the left border of an enlarged heart, or in a small chest anywhere.

With percussion, there may be a feeling of resistance over fluid, fibrosis, and consolidation, or solid viscera.

Where there is an old empyema scar, there is usually dulness around and above it, but the voice sounds may be quite clear, and the lung may expand well. In other cases there may be limitation of movement at the level of the scar and below. The manner of dealing with the case will depend upon the signs present in the proposer; but in old histories of empyema with operation in robust proposers, without subsequent trouble in the chest, it is not usual to charge an extra premium. Deformity of the chest and spine from empyema may be so severe as to require declension.

The auscultation of the chest for life insurance involves close attention to the physical signs afforded by the breath sounds, the voice sounds, and the nature and distribution of adventitious sounds. The breath sounds should be observed in relation to the percussion note, and to the corresponding areas on the two sides.

With a resonant chest, there should be a soft but vigorous sound of inspiration, and almost or quite inaudible breathing in expiration. This character should be present everywhere in the lung.

It is quite a common thing, however, to find a moderate degree of expiratory murmur audible at the apices and the anterior borders of the lung, when the proposer has localized emphysema from a severe preceding catarrhal cough, or in the very early stages of emphysema from chronic cough, or as a result of bronchial asthma.

In asthma of the more purely nervous type, such as arises from nasal reflex, or reflexes from the terminal branches of the vagi or elsewhere, the chest may be free from emphysema even where the history has lasted for several years, especially in proposers under forty.

Emphysema with prolongation of the second or expiratory sounds over an extensive area should be described.

It will demand an extra premium according to the cause of the emphysema, the accompanying adventitious sounds, if any, the age of the proposer, and his family history. Some cases are uninsurable, most cases require an endowment policy not going beyond sixty or sixty-five; some are insurable with an extra premium.

The weight of the proposer will affect very seriously the manner in which the proposal will be considered. Excessive weight is a very detrimental factor if the proposer has emphysema.

There may be an excess of the expiratory murmur only at the right apex. This is often a natural phenomenon due to anatomical conditions. If, however, there be diminished resonance, loss of movement, and diminished expansion during inspiration, or retraction above or below the clavicle, the fact should always be stated, as it may mean an antecedent attack of phthisis or existing dormant tuberculosis. At the left apex prolonged expiration should always be mentioned, whether there are accompanying physical signs on inspection and percussion or not.

Prolonged expiration may sometimes be found over an area of diminished resonance, and should be noted, especially when accompanied by adventitious sounds, wherever it occurs in the lung.

Over an area of dulness at the base, or in the axilla, or elsewhere than at the apices, a diminution in the intensity of the inspiratory murmur generally means thickened pleura.

An increase of voice sounds at the apices is always suspicious, especially in thin people, with other signs suggesting the possibility of dormant tuberculosis.

The voice sounds will be increased over an old bronchiectasis at either base, when there will be, in addition, evidence of fibrosis of the lung, afforded by dulness on percussion, and usually some adventitious sounds.

The signs left by "gassing" are usually very slight. Occasionally there may be evidence of a fibrosis or bronchiectasis, or retraction at one base, or there may be some emphysema.

The voice sounds may be diminished, more or less according to the thickening that may be present, over pleural adhesions. In many cases, which are easily detected by light percussion, there may be no alteration of the voice or breath sounds, and if there is no history of effusion of the chest and an otherwise normal condition, they do not usually require an extra premium.

The adventitious sounds that may be found in proposers are usually dry râles or rhonchi, and occur in cases of early catarrh, or in cases of chronic cough, or asthma.

If there be the slightest suspicion of tubercle, the proposer should be asked while the stethoscope is on the apex in front or behind to cough, and take a deep breath, when post-tussic râles may be detected and the case would be uninsurable.

Moist râles are, as a rule, uninsurable. According to the other conditions present, the case should either be declined or postponed. For instance, a recent acute bronchitis, with some moist râles at the bases in an otherwise healthy proposer would only require postponement for a few weeks—say, a month—whereas the suspicion of tubercle would mean postponement for at least a year, or declension.

A history of tubercle, carefully enquired into in all its aspects (including the possible hæmoptysis and examination of sputum for tubercle bacilli), if showing signs of entirely healed disease, such as a diminution of movement and loss of resonance, without any adventitious sounds, in proposers of good general health, normal blood-pressure, and with no anæmia of the palate, may sometimes be insured with a considerable extra.

CHAPTER XXII

THE EXAMINATION OF THE HEART, ANÆMIA, AND THYROID

In examining the heart, or indeed any organ, for life insurance, sources of error should be eliminated. On the other hand, the examiner should not try to explain every adverse feature as being due to unimportant causes.

A thick chest wall will cause the heart sounds to be distant and toneless. Nervousness on the part of the proposer will cause the heart sounds to become rapid, accentuated at all the orifices, or even tumultuous.

The first examination of the heart should be done in the recumbent position. The proposer should be asked to take a deep breath, expire fully, and rest in that position for a few seconds, during which time the examiner can rapidly percuss the heart to ascertain its size, and estimate whether the heart sounds are pure at the apex and at the aortic and pulmonary areas. The stethoscope should be moved from the apex beat towards the axilla, from the aortic area and pulmonary areas upwards and outwards, from the second left space down along the intercostal spaces close to the sternum, and at the lower end of the sternum, and over the front of the præcordial area. When the proposer stands up the same process can be gone through. The proposer may now be asked to take a deep breath, and then breathe quietly.

Proposers, should they be nervous, will often be made less nervous by being asked to take a deep breath, and exhale fully, as though they were absolutely "fed up" or "bored to death," or, in proposers of a different class,

if they are told to take a deep breath and "sigh fully," and then keep quite still for a moment or two. This often causes the proposer to smile and become reassured.

In cases of a thick chest wall, when the sounds are distant and toneless, the author, sitting, asks the proposer to stand and lean forward with his right hand resting on the examiner's left shoulder until his chest is nearly horizontal. This causes a slower beat of the heart, and at the same time the heart is brought up against the chest wall, and the sounds are more easily observed.

The character of the first and second sounds, and especially the relative intensity of the first and second sounds, should be estimated. Accentuated second sounds should be mentioned, whether aortic, as is common, or pulmonary. A dull and toneless first sound in all positions, sometimes combined with a second sound of equal low intensity, is usually a sign of degeneration of the muscle. It may imply syphilis, and a history of this disease, which had been previously ignored by the proposer, has frequently been obtained by the author when this sign was present and the proposer was challenged. It is to be distinguished from the distant sound of a heart overloaded with fat, in which the pulse is often rapid and the proposer of obese build.

Should the apex beat be found outside the normal position, or beyond 3½ inches from the middle line of the sternum, with a normal right border to the heart, it is not necessary for the examiner to diagnose the cause of the condition, should there be no valvular disease. The pulse-rate, blood-pressure, and history of the case will probably be sufficient for the chief medical officer of the company to reject the case. Rarely a proposer may present himself with some intrathoracic condition which has caused a displacement. Very rarely the heart-beat may be on the right side, and, as a rule, the liver will then be on the left side.

There is no other information which is useful for insurance purposes to be gathered from the palpation of the heart-beat, but a diffuse heart-beat may occur from tricuspid valvular heart disease, or dilatation of the heart, a heaving impulse may be felt in hypertrophy of the left ventricle, and a thrill may be felt in mitral stenosis.

The reaction of the heart to exercise is an important test that is required wherever there is a suspicion of cardiac degeneration.

It is obvious that very bad hearts will not stand exercise, and it is only in doubtful cases in life insurance work that proposers should be submitted to an exercise test. If the heart is found to be irregular and unequal in its beat, and its sounds lacking in intensity, it is inadvisable to submit the proposer to an exercise test. The case should be declined or postponed.

In other cases there may be an approximate equality of intensity of the two sounds at the apex and base respectively, an occasional intermission in the pulse, and a history of rheumatism in the proposer. There may be in some of these cases a systolic bruit audible at the apex.

If there be a presystolic bruit it is not advisable to perform an exercise test, for the case is often uninsurable without the confirmation of the test.

In cases of a slow beat with an occasional intermission, in proposers who have been or are athletes, who are apparently in perfect health, an exercise test will usually be followed by the disappearance of the intermission. They are insurable, as a rule, as average risks.

Sometimes the athlete presents a moderate degree of enlargement of the heart due to hypertrophy from muscular exertion. It is to be distinguished, of course, from the cardiac dilatation which occurs from anæmia or from valvular heart disease. There is usually a slow

pulse in the athletic heart, and a quickened beat in anæmia or valvular disease.

The usual way of performing an exercise test in insurance practice is to ask the proposer to step a dozen times on and off a chair or sofa, or to do twenty arm-exercise movements, or to bend down half a dozen times to touch the toes. The pulse-rate usually rises, and in a comparatively few seconds returns to normal. The test should be described, the amount of the increase in rate should be stated, and the time that it takes for the pulse-rate to return to its normal. A good exercise reaction would be, after twenty double arm-extension movements, for a rise to take place from 72 to 96, returning to normal in five to fifteen seconds, without shortness of breath or cyanosis. A bad reaction would be the production of these symptoms, a greater rise in pulse-rate, and a time which may be measured in minutes before returning to the normal. In some of the worst hearts, however, there may be no disturbance of the pulse from attempts at exercise, but such cases will not often come before the insurance examiner.

By far the most common form of heart disease is that shown by the occurrence of a systolic apical bruit. It usually denotes mitral disease, though it occurs also in severe chlorosis or other forms of anæmia. In the latter case it often disappears when the proposer is examined in the recumbent position, though it may not do so. The bruit produced by the overlapping lung (the cardio-inspiratory bruit) should always be eliminated by examination of the heart, with the lungs fixed in expiration, and in the recumbent position.

Severe anæmia will require postponement, as the heart is usually dilated and will measure outside the normal limits.

In cases where there is a history of rheumatism, or, without a history, where there is a mitral bruit, which may only be audible in the recumbent position, and the

apex beat is in the normal position, it is advisable to cut short the insurance at fifty-five or less, according to the nature of the occupation, or employment, or habits. An extra premium is also required, varying in amount from five to ten years' addition to the age, according to the proposer's environment and occupation.

Mitral stenosis is shown by a presystolic murmur, and is often uninsurable, as also is aortic regurgitation as shown by a diastolic bruit audible down the left side of the sternum below the third rib. Some offices will accept these conditions with larger additions than for a mitral regurgitation, if the apex beat is not displaced.

Aortic stenosis is a rarer form of valvular heart disease, and is often insurable for a short endowment, but with an extra premium.

Enlargement of the heart in association with valvular disease is often spoken of as though it were compensation, and a point in the proposer's favour.

It is, however, obvious that a heart which has a leaky mitral valve, and is not obviously enlarged, is a better organ than one in which the stress of the proposer's life has caused enlargement. As a rule, offices do not like enlarged hearts, though aortic stenosis is a rare exception, and enlargement of the heart in this condition is acceptable, on terms.

A history of rheumatism or influenza in the proposer is strong evidence that the nature of any abnormality in the heart is organic.

"Growing pains" in childhood should always be sought for when the proposer, in whom there is a lesion of one of the valves, has denied "rheumatism." It is a gross superstition which inflicts lifelong disease on many individuals.

Aneurism of the aorta is not often diagnosed in life assurance examinations. Proposers with aneurism do not present themselves, as a rule. Occasionally it may

be found accidentally, and would, of course, cause rejection. It should always be sought for in men of strenuous life, with a history of syphilis. It is usually accompanied by a high blood-pressure and an accentuated aortic second sound.

Angina pectoris will scarcely be admitted by a proposer for life insurance, but sometimes a clue will be afforded by a statement of "pain" ascribed to "indigestion." The family history, the age of the proposer, perhaps a high blood-pressure, will lead to doubts that may be expressed by the examiner.

The author has met with a case, where a man of fifty years, who was insured a year previously for a large amount, claimed a very heavy surrender value for his policy, because he had developed angina pectoris since insurance. He gave the name of the doctor who had attended him in an attack, but who was now dead, and threatened to keep the policy in force unless his estate was to benefit by a considerable proportion of the sum assured. Unfortunately, it was found that the doctor had died before the date of the alleged attack, that no other witnesses were available, that he presented no signs of any cardiac affection, and that he wanted money rather badly. The policy was surrendered on return of the premium paid only.

Anæmia in the young should be postponed until the case has been treated. Anæmia in the old should always be declined. The best test for anæmia is an inspection of the palate at the time of making an examination. In proposers over thirty anæmia always calls for further enquiry. Should it not respond to treatment of the ordinary kind, the case may be one of pernicious anæmia. The author has, on four or five occasions, had to postpone doubtful cases of anæmia.

Enlargement of the thyroid gland may be simple, or malignant, or associated with Graves's disease.

Simple parenchymatous enlargement of the thyroid, which has remained of the same size for some years, and which has no pressure symptoms, may be included with average risks and accepted at tabular rate.

It is unlikely that malignant disease of the thyroid will present itself for insurance.

Exophthalmic goitre is sometimes found accidentally. The proposer may not have much enlargement of the thyroid. The vascular symptoms may predominate. On the other hand, there may not be severe vascular symptoms, but there may be tremor and exophthalmos.

In any case where the disease can be recognized, the proposal should be postponed indefinitely. In cases of doubt as to the nature of a thyroid enlargement, postponement is the wisest course also.

Myxœdema is very unlikely to come before an insurance examiner, but in cases of œdema, with dulness of the intellect, the condition should be thought of, as the examiner may be able to relieve the symptoms by communicating with the medical attendant, a thing which is not strictly part of his duty. Myxœdema is curiously often overlooked in general practice.

CHAPTER XXIII

THE EXAMINATION OF THE PULSE

THE pulse should always be counted two or three times during the examination, if it is not quite normal at first.

The usual pulse-rate for an adult male may be taken as 72, with variations from 60 to 80. In a woman the pulse-rate is a few beats quicker, but 70 to 90 may be taken as the average healthy pulse limits of the young adult woman.

The pulse is more often found to be too rapid than too slow.

When a pulse-rate is found to be over 100 per minute in a proposer who is otherwise quite normal, the cause is usually nervousness, and the pulse-rate will be found to be normal if it is taken again, after the proposer is dressed.

Other causes of a rapid pulse, which present themselves for life insurance, are anæmia, latent or active tuberculosis, fatty heart, and alcoholism.

The rapid pulse of tuberculosis is often associated with a rise of temperature and a low blood-pressure, and the proposer may present other signs which will lead to a postponement or declension.

The rapid pulse of a fatty heart is usually associated with a high blood-pressure, and also requires postponement or declension. The proposer is usually fat and often alcoholic.

The rhythm of the pulse should be regular and equal. Inequality of the pulse is usually of much more importance than occasional intermission. Inequality generally means some degeneration of the heart muscle. It may occur

from recent poisoning by tobacco or food. Unless the cause is clear, a re-examination should be demanded, otherwise postponement or declension should be suggested.

Intermission of the pulse often occurs in athletes, and usually disappears when an effort is made. Inequality requires postponement and perhaps declension, but a pulse which is beating regularly and equally, and has an occasional intermission only, is usually accepted as an average risk. The exception is in old lives with a high blood-pressure.

The tension of the pulse should be measured in all cases over fifty years of age.

A sphygmomanometer is a necessary part of the insurance examiner's outfit. If the dial type of instrument is used, it should be checked occasionally with a mercurial apparatus. This is easily done by connecting one end of the T-piece to the dial, the other end to the mercurial apparatus, closing the valve, and pressing the air bulb gently. The mercury will rise and show the same pressure as the dial, if the latter is in good working order.

A rough guide to the normal maximum systolic blood-pressure—that is, the blood-pressure measured on the instrument when the pulse in the radial artery can just no longer be felt—is that it should be equal to the age of the proposer plus 100, in millimetres of mercury.

Blood-pressures below 110 are very significant if there is the slightest suspicion of dormant tubercle. Such cases should be postponed for at least twelve months.

An upward variation of the blood-pressure is more common in insurance work.

Arterio sclerosis is very hereditary. Although examiners are not expressly asked to take the blood-pressure of proposers under the age of fifty, yet this observation should always be made when there is a history of arterio-sclerosis and cerebral hæmorrhage, or death at an early age, in any relative.

It should always be taken also when there is a past history of nephritis, even if the proposer's urine be free from albumin.

A history of gout in the proposer is also an indication for taking the blood-pressure.

Where syphilis is admitted or suspected the blood-pressure should also be taken.

It is usually raised in cases of diabetes.

A blood-pressure which is considerably above normal for the age will require an extra premium, postponement or declension, or insistence upon an endowment policy in preference to the whole-life contract which may have been desired. Some cases may be insured for short endowments up to ten years, provided that the endowment age is below the age at which a parent has died of some condition which may have been due to, or associated with, arterio-sclerosis. Blood-pressures of 200 or above are usually quite uninsurable at any age.

Exceptions no doubt occur. The author has under his care a lady who for the last five years has had a radial maximum systolic blood-pressure of 250 millimetres since age forty-eight. At first, perhaps, she was insurable for a term risk of one year or so. Her radial artery appeared to be normal. But she has had epistaxis, slight albuminuria once or twice, and a hæmorrhage in a conjunctival vessel during the last twelve months, and is now not insurable.

Though the answer "normal" is often given to the question on the examination form regarding tension, yet the apparently elastic radial vessel, without thickening, is a very unsafe guide to the condition of the blood-pressure and the circulation.

Thickening of the vessels is commonly seen locally in various classes of people. For instance, the radial vessels of a cavalry officer or the temporal vessels of a business manager are very constantly thickened, though in both

cases the blood-pressure may not depart widely from the normal.

Tortuous temporal vessels are, however, more significant than radial thickening, even if the blood-pressure be normal, as there may be an associated condition involving the cerebral vessels.

Additions to the premium are commonly made for thickened and tortuous temporal vessels, provided that the proposer is in otherwise good health, that the blood-pressure is not unduly raised, and that the proposal is for an endowment policy. Usually smaller additions are required for an endowment policy than for a whole-life policy in such cases.

The association of albuminuria with a raised blood-pressure renders a case quite uninsurable.

Very slow pulses—such as, for instance, a pulse of 50 or less—are often associated with severe degeneration in the heart muscle, and should only be recommended under the strictest precautions. Very slow pulses sometimes do not react to exercise. They may show a high blood-pressure.

CHAPTER XXIV

THE EXAMINATION OF THE TONGUE AND ABDOMEN

WHILE the proposer is recumbent for the first examination of the heart, the examiner can test the appendix regions, ascertain whether there is any tenderness or rigidity of the stomach and duodenal areas, and glance quickly at the generative organs and, if necessary, examine them.

He can also, if there is any history of renal colic, palpate both renal regions and follow down the course of the ureters.

Intra-abdominal tumours and cysts may be appreciated by passing the hand gently and firmly over the abdomen, and, if necessary, examining any doubtful spot. In cases of obesity the flanks should be percussed in the recumbent position, and in the erect position, in case there be ascites also present. In the thin elderly proposer the presence of an abdominal tumour, requiring postponement or declension, may be detected.

In the alimentary system, the examiner is usually asked to examine the mouth, tongue, palate, and fauces, as well as the abdomen.

The proposer should be asked to open his mouth wide, when the inside of the cheeks, the condition of the gums, the absence of teeth, the presence of caries or pyorrhœa, and the wearing of dentures should be observed.

The tongue should be described briefly, and especially should any sores or fissures be noticed. A fissured tongue may be congenital, but it may be an evidence of syphilis.

Leucoplakia always demands postponement, especially in smokers.

The condition of the fauces, as regards enlargement of

the tonsils, may call for a note. The colour of the palate, if pale or congested, should be stated. Faucial congestion may denote excessive alcoholism or the abuse of tobacco.

Very deficient or extensively carious teeth may require an addition to the premium, or postponement until the septic stumps have been removed. As a rule, teeth in a moderately bad condition are tolerated by insurance companies, though they are not really assurable as first-class risks.

Pyorrhœa, on the other hand, is often a cause of delay. In some offices the proposer may be accepted, if he is free from other symptoms or physical signs, at ordinary rates, but renewal may be made subject to the production of a certificate from a dental surgeon that the mouth is in good order. Pyorrhœa, however, which is accompanied by signs or history of indigestion, gastric pain, or tenderness, or high tension, and in cases of rather advanced years at entry, for instance over forty-five, may call for postponement. Pyorrhœa in such cases may be taken as evidence that there is a possibility of systemic poisoning going on in the proposer, and of other risks consequent thereon.

Any operation on the tongue in lives over thirty or forty, especially if it is spoken of as a "wart" or "papilloma," usually requires postponement for some two or three years, and is not by any means a desirable condition to insure. Even if a pathologist's report has been obtained on the condition, and it is said to have been a simple papilloma, yet the risk of the occurrence of cancer is high. The greatest precaution is also to be observed when the answer is given, "a papilloma on the lip was removed," however innocent it may be declared to have been.

Sublingual cysts, even if recurrent after operation, are usually acceptable, though much will depend upon their size and situation. The risk of death from a sublingual cyst is very small, and the danger is merely that of the anæsthetic in most cases.

Tumours growing from the inside of the cheeks, or on the palate or gums, should be postponed.

Enlargement of the tonsils may be acute or chronic. Acute tonsillitis requires a week or two's postponement. Chronic enlargement, without a history of recurrent attacks of acute tonsillitis, or the presence of glands in the neck, does not usually require addition. With a history of frequent sore throat, and the presence of large unhealthy tonsils, an insurance may be granted on terms, but it is better to postpone the case until the tonsils have been removed. Occasionally a similar plan may be adopted to that suggested in the case of pyorrhœa, and the renewal of the policy at the end of the first twelve months be made subject to the production of a medical certificate that the tonsils have been removed and are now healthy.

It should be pointed out, when policies are granted at average rates subject to the production of a certificate of this kind, that the office has to run the risk of the danger of the operation. Though the force of competition renders such acceptances frequently necessary, the practice is a doubtful one. The office, on the other hand, gets the premium of the proposed policy, which is larger than that for the term risk for one year.

Clergyman's sore throat or chronic pharyngitis does not, as a rule, require any extra premium.

Lupoid or syphilitic conditions of the mouth, nose, or pharynx are, of course, uninsurable, but the examiner will very rarely find them.

Aphonia and hoarseness should always be regarded with great suspicion whatever explanation may be offered by the proposer. There may be tuberculosis of the larynx, or early malignant disease, causing either condition. Aphonia and hoarseness always require postponement until the cause is clear or the condition cured.

In the abdomen any abnormality should be noticed.

An excessive abdominal girth, above that of the chest

in expiration, and especially if above that of the chest in inspiration, means obesity, and perhaps ascites. If non-ascitic, the policy should preferably be for a short endowment, provided that the proposer is not an alcoholic. Teetotallers are sometimes large eaters, and their risks are a little better in obesity. The resemblance of the proposer to long or short lived obese ancestors is a very important point to establish. Alcoholic obesity, of rapid occurrence, is uninsurable. An extra premium and a short endowment are the only terms on which any office would even consider the risk, and that only in selected cases.

The presence of enlarged tortuous veins on the abdomen would debar, as a rule, from insurance, unless it was due to a long antecedent iliac thrombosis, when an extra premium or an endowment policy would perhaps in some cases meet the extra risk.

Cicatrices should be described accurately, and any ventral hernia should be mentioned which has resulted therefrom, with its control by a belt and pad, or the absence of control. A simple linear scar should be described, with its extent and situation.

The pendulous abdomen, or the "poached-egg" belly, should be mentioned. It may mean enteroptosis or alcohol.

The abdomen should always be palpated for signs of tenderness or resistance, especially in the appendix region, the gall-bladder region, and the stomach. In older proposers the possibility of malignant disease should be remembered. Any tenderness, unusual dulness, or resistance, in the abdomen usually requires an extra premium, postponement of the risk, or declension. The nature of the disease, if possible, and the locality of the tenderness, resistance, or dulness should be ascertained and briefly described.

The presence of an abdominal scar with a history of operation for gastric, or duodenal, ulcer, requires an extra, and an endowment policy. The risk diminishes up to the third year after operation, but it is important

that the proposer should have improved in health since the operation. His weight is a good guide. He should not be insured beyond about fifty-five. Operations for gunshot wounds of the abdomen will require varying extras, and the surgical evidence is desirable.

An appendix scar with a thin skin, which may be bulging on coughing, or which requires a pad or belt to support it, usually requires an extra premium. The simple linear scar, without intra-abdominal signs, usually requires no extra, though this depends on the nature of the operation performed, the disease or injury for which it was done, the date of the operation, and the age of the proposer.

The presence or absence of inguinal hernia, or a tendency thereto, should be ascertained by asking the proposer to stand up with his heels together. He should stoop with his knees separate as much as possible, while the examiner puts his hand on the inguinal rings and asks the proposer to cough. This position should also be adopted to test whether a rupture is properly controlled by a truss worn by the proposer.

The umbilical condition should be noted if abnormal. Umbilical hernia is not a desirable risk in obese proposers.

A history of renal colic often requires an extra premium, even if the signs on examination of the kidneys and ureters are normal and without tenderness.

The author has had occasion to consider an application for special terms for an annuity in a proposer who had a large cystic kidney. He examined several times, and a considerable extra annuity was allowed. The proposer had a minute trace of albumin. The right kidney presented a tumour as large as a fœtal head, and there was an increased blood-pressure. The proposer died six years after the last annuity insurance with a small profit to the company.

When there is a history of malaria or dysentery, the splenic and hepatic dulness must be carefully defined. Anæmia, after malaria, and an enlarged spleen, will mean postponement. An enlarged spleen will generally mean

an extra premium. Any persistence of colic, or diarrhœa, or mucus in the stools after an attack of dysentery, will generally mean postponement. Any policy issued should not allow the proposer to travel to countries where these diseases are rife, without the heaviest extra obtainable.

The scar of a liver abscess operation may be situated anteriorly or posteriorly. A posterior scar resembles a very low empyema scar, and if the liver dulness be now normal, the operation long antecedent, and the proposer not exposed to tropical infection, should be treated similarly—that is, without extra, or with a small addition. An anterior scar involves risks of intra-abdominal adhesions, and may require an extra.

If there be a history of indigestion, the stomach should be percussed, and its cardiac and duodenal areas palpated.

If there be a history of jaundice, the gall-bladder should be examined both by percussion and palpation. Any abnormality requires postponement.

If there be a history of dysentery, the colon should be traced, and any thickening that may be felt should be described. If there be any mucus or blood in the stools, or occasional diarrhœa, the case should be postponed.

In cases of obesity an examination should always be made for ascites, and in the case of women for ovarian cyst, or a fibroid tumour, which sometimes are without symptoms, although the proposer may have determined to have an operation if insurance can be effected. Any of these conditions, including ascites, would naturally disqualify the proposer for insurance.

The object is not so much to make a definite diagnosis as it is to find conditions which demand either further enquiry or postponement of the acceptance of the risk. The majority of the questions can be answered by some such expression as "healthy" or "normal," or, in offices asking whether there is any evidence of any defect, by the word "no." When a defect or sign of disease is present, the examiner should only indicate it briefly.

CHAPTER XXV

THE EXAMINATION OF THE NERVOUS SYSTEM

THE nervous system is not usually deeply examined, but most offices insist upon a record being taken of the condition of light reflex and the pupils, and the presence or absence of knee jerks.

The light reflex is observed by asking the proposer to look at the window or light while the hand is held over the eyebrows, and then lowering the hand slightly so as to shade the source of illumination. The pupil will usually be seen to dilate as the light is cut off.

Or the proposer may be asked to look at the light after the hand is raised, but the sources of error are likely to be greater in this case. The author usually practises both methods, and the observation is almost a momentary one.

While testing the pupils information is sometimes obtained from the condition of the outer edge of the cornea, when, if it presents an *arcus senilis*, and there are any other evidences of premature old age, it is advisable to limit the term of the policy.

Occasionally *arcus senilis* is present without any other evidence of premature senility. It may be a peculiarity of the individual, and it will be found to have occurred at an early age in other members of his family, although they have been long-lived.

The examiner may also look for corneal opacities. If due to injury they are of no consequence, except to the proposer. If due to congenital syphilis other evidences of the disease may be sought for—as, for instance, in the teeth.

The knee jerks should be tested while the proposer is sitting beside the examiner (or while the proposer is recumbent). The pulse should be taken, the proposer being asked to cross one knee over the other before taking the pulse. Directly the pulse is taken, while the proposer's attention is still directed to the pulse-taking, the examiner will tap the ligamentum patellæ, when the knee jerk will usually be obtained.

The proposer is then asked to cross the other knee, and that jerk will be obtained also.

In some cases the knee jerk will not be obtained unless it is "reinforced" by asking the proposer to clasp his hands together tightly in front of his chin and look up at the ceiling, his legs being still crossed.

Absence of the knee jerks is sometimes physiological and congenital.

It may mean, however, that the proposer has a disease, such as locomotor ataxia, or diabetes, or alcoholic neuritis. When knee jerks are not obtained, and there is no reason to suspect one of these diseases, the proposer may be asked to kneel on a chair with his hands on the back so that his heels project behind the seat of the chair, when the tendo Achillis jerk may be obtained.

When neither knee jerks or tendo Achillis jerks are obtainable, the proposer should be asked to stand up with his heels and toes together, and to close his eyes tightly, when the presence or absence of swaying (Romberg's sign) will afford a clue to the condition of the central nervous system. If Romberg's sign be present the case is uninsurable.

Absence of the knee jerks with a history of syphilis renders a case also uninsurable. In cases where the proposer can state that they have always been absent, and he is otherwise in good health, the condition may be ignored if the pupil reflex is normal and there is no Romberg's sign.

A bad headache is only a symptom, but it may be a symptom of a fatal disease. For instance, a case was described as having had occasional slight headache, which was ascribed to faulty digestion. The case was accepted, but died one and a half years later of a glioma of the brain.

It is not always easy to discriminate between trivial symptoms and acute organic disease, but if headache be accompanied by vomiting the examiner should hesitate about acceptance. The case may be one of migraine, when the history will probably be too long for a cerebral tumour. In cases of a considerable amount the proposer should be asked whether he is willing to submit to the examination of a neurologist, as to the cause of his headache, should there be any reason to suspect the existence of a severe disease.

Should a proposer have confessed to insomnia from "brain-fag" or "neurasthenia" it is important for the examiner to ascertain whether the condition was persistent, and whether it has completely recovered without the use of hypnotics. Persistent insomnia may be an evidence of commencing insanity, and the risk of suicide is a grave hazard.

The after-effects of infantile paralysis may mean various degrees of deformity, but in the majority of instances it is only the extremities that are involved. If the intercostal muscles are badly damaged there may be a cause for an extra premium, varying in amount with the embarrassment of the breathing that may result. In one case, where the upper intercostal muscles had led to a contraction of the upper chest, a considerable extra was imposed—namely, ten years' addition for a twenty-year endowment policy.

"Shell-shock cases," and other conditions generally called "neurasthenia," present, as a rule, exaggerated knee jerks. In some cases a short postponement is all

that is required, but there may be tendencies to suicidal impulses which will demand declension. In other cases with comparatively slight symptoms, but with an occupation which must continue to be strenuous, an extra may be imposed.

Insomnia is usually a cause for postponement in "neurasthenia."

A history of migraine, if the proposer is otherwise healthy, and has a normal blood-pressure, requires no extra premium, but an endowment policy is to be preferred.

Scars on the head or on the tongue where there is a history of epilepsy, in the absence of a history of injury, or even admittedly due to the epilepsy, which is often stated to have been cured, are sometimes seen. They either confirm the story, or, if the epilepsy has been denied, raise doubts in the mind of the examiner. Epilepsy persisting into adult life is occasionally insured with a considerable extra premium for a moderate endowment policy. This course should not be followed if there has been insanity following an attack, or an increasing frequency. The author has watched his insured epileptics for various periods up to over twenty years, and none of them has died of any complications due to epilepsy, nor in an attack of the disease.

Cerebral monoplegias require declension or postponement indefinitely, with the one exception of Bell's facial paralysis. This is occasionally persistent, although the majority of cases rapidly recover. If the history is quite clear and there be no ear disease, the case may be insured at ordinary rates.

Ptosis of one of the upper lids requires rejection, as also does inequality of the pupils, of which no history is obtainable from the proposer. The author saw one of the chief officials of an insurance company who had a drooping of the left eyelid, slight inequality of the

pupils, no Romberg's sign, and was apparently in good health. There was no history of syphilis obtainable. He was postponed, and although certificates were produced from a well-known neurologist that the condition was probably entirely local, he died within two years of general paralysis of the insane.

Intense neuralgias are, as a rule, uninsurable, as the pain is so great that suicide may occur. Such cases may apply for unusually large amounts, in itself a suspicious circumstance, and are difficult to detect.

Fibrositis, including "muscular rheumatism" and "neuritis," does not, as a rule, require an extra premium. If it is a past condition, and there are no signs or tenderness at the time of examination, the rule is to charge no extra. If it is still occasionally present, and the cause is clearly not a constitutional defect, the same rule applies.

Lumbago and sciatica are frequently mentioned by proposers. Lumbago is usually due to lithiasis, but the examiner must be cautious, as other conditions may be included with lumbago under an erroneous diagnosis. With sciatica, although there may be definite tender spots, yet it may not be a simple sciatica, but may be associated with severe disease in the pelvis. For instance, sciatica with constipation may mean cancer of the rectum. Both conditions may conceal graver affections. Neither condition requires an extra premium in itself, although a history of gout, the age of the proposer, and the possible habitual morphia-taker may have to be dealt with.

Neuritis may or may not be insurable. If there be a suspicion as to alcoholic habits the case should not be accepted, but in cases due to exposure only, they may be entertained even at ordinary rates if otherwise desirable risks.

Tremor of the fingers or tongue should be noticed. If there be the slightest reason to suspect alcoholic habits, the proposal should be postponed or declined.

Heat apoplexy and sunstroke render an applicant insurable at ordinary rates only if he is living permanently in the temperate zones, and if there are no after-effects, such as frequent headaches. Inability to work in the heat would render the case uninsurable, or require an extra premium even in the temperate zones.

Affection of the special senses must be investigated. If peripheral, there is usually no bar to acceptance. Some offices will not accept the blind or the stone deaf. Others will require an extra premium according to the environment of the proposer, as also in deaf-mutism.

A history of insanity always demands an additional premium. In one case recorded by the late Sir William Gowers, a very favourable result was the longevity, by the occurrence of dementia, in a young man who was in an asylum suffering from mania when insured. He lived to ninety-five, rated age 115. The policy was required to protect a life interest, which three generations enjoyed. The majority of patients who have been under certificates succumb early.

CHAPTER XXVI

THE EXAMINATION OF THE GENITO-URINARY SYSTEM

THE examination of the genito-urinary system does not, as a rule, supply much information which is useful in assessing a life for insurance.

Occasionally the examiner may notice a difficulty in micturition which will lead him to ask questions from the proposer. He may see that the stream is small, and may ask for information.

The proposer is often reticent when questions are asked during the taking of the personal history, and it is only if the examiner notices an abnormal symptom that he will confess that he has had an instrument passed, or that the stream has been becoming narrower during the last few years. The size of the instrument used, and the dates when it was used, should be ascertained.

If there be a definite risk of stricture, the proposal must be deferred for treatment. It is almost impossible for the risk to be assessed immediately. There may be dilated pelves of the kidney, or hypertrophy of the bladder, or other anatomical change due to the obstruction to the flow of urine.

The complications of gonorrhœa, other than stricture, are sometimes severe, and may even include endocarditis. Although a stiff joint, for example, may be insured at ordinary rates, it is doubtful whether any attack of gonorrhœal arthritis with persistent symptoms should be accepted as an average risk, unless it has been treated and relieved by modern vaccine methods.

Traumatic stricture is occasionally mentioned by a

proposer in his history. The examiner can only ask what instrument can be passed, or whether instruments are still required, in addition to the history of the occurrence, and whether there has been any operation. If there has been an operation shortly after the accident, and no instruments have been required for some years past, and the stream is of good size, with normal urine, the case will not necessitate an extra premium. Other cases must be dealt with according to the conditions present. Rejection may be required.

Most cases of stricture require an extra premium and an endowment proposal, whether the stricture be gonorrhœal or traumatic. The urine should be free from albumin.

Any case that has had a former history of syphilis, even if it has been thoroughly treated, is not to be considered as a first-class risk for ten or twelve years. On the other hand, many cases that have had syphilis in their youth, and have been efficiently treated, may be considered to be average risks if they have presented themselves fifteen to twenty years later, without any history of recurrence, or signs on examination.

Recent syphilis, however well treated, implies an extra hazard to the insurance company. Within two years of the attack it is inadvisable to insure any case, and an extra premium is generally required for the next ten years, even if the proposer has remained free from any "reminders" of his affection.

Favourable points in the history of a man who has had syphilis in his youth are, firstly, the thoroughness and nature of the treatment; secondly, the reputed skill of those who directed his treatment; thirdly, the absence of any recurrence; and fourthly, if he is married and there have been healthy children. For instance, a man had syphilis when he was twenty, was treated for two years, with an annual inunction course for the next three

years, and insured his life at thirty for a fifteen-year endowment, when he was accepted with three years' addition. At the termination of his endowment policy he wished to take up a fresh insurance. He had married, and had a healthy child one year after his marriage, now thirteen years old, had had no relapse or recurrence of any kind, his nervous system was in perfect order, his heart sounds clear and distinct, and his blood-pressure was 135. He was accepted for the whole of life, his family history being good, on his second application, at ordinary rates.

Scars due to syphilis in the mouth or throat or elsewhere require investigation as to the time at which the lesions causing them occurred. If they have occurred long after the first attack of syphilis, the case is still a dangerous one to insure. If, on the other hand, they occurred shortly after the attack, and there has been no recurrence since, and they were thoroughly and efficiently treated, the case may be accepted with some small addition varying with the duration of the proposer's policy.

In cases of doubt as to a proposer's statement in regard to venereal disease, the penis may be examined for scars.

As a general rule syphilis must be regarded as an under-average risk. All nervous or cardio-vascular lesions demand rejection. Sores or rashes or gummatous conditions require postponement.

The hereditary nature of nephritis must be remembered.

A history of nephritis in the proposer, whether after scarlet fever, exposure, or "trench fever," always requires that the blood-pressure should be taken. The examiner should test the fronts of the tibiæ above the ankle and below the malleoli for signs of œdema. A history of nephritis with high blood-pressure and œdema will require

rejection. If the urine be of very low gravity, even if there is no albumin, and the blood-pressure is high, the greatest caution should be exercised in recommending acceptance, though cases may be accepted according to their condition with a smaller or larger extra premium for endowment policies at the younger ages.

The age of the proposer has a great deal of influence on the acceptance of the risk. Lives over fifty should never be recommended if there be a history of nephritis and any abnormality be present at the time of examination. Lives under thirty with a history of nephritis after scarlet fever in childhood will often show no microscopic defect, but a persistent albuminuria. These may be recommended with an extra premium for endowment policies, but the most careful selection is required.

A proposer aged forty-seven had had two attacks of nephritis, twelve years and six years before the proposed insurance. The medical examination was quite satisfactory, and the blood-pressure was stated to be 130. Before the case was completed a branch manager had occasion to call on the proposer, and found him in bed suffering from nephritis and very ill. The medical examiner in this case was undoubtedly exposed to local influences, and it is probable that the albumin test and the blood-pressure test were indifferently carried out or recorded. The case was not insured.

Tenderness in either kidney or in the course of the ureters, when there is a history of renal colic or calculus, will require postponement. A radiographic examination may be necessary, before the case can be considered. Even should this show a negative result, a past history of calculus with pyelitis will usually demand an extra premium, and often an endowment policy.

Pyelitis or cystitis will be evidenced in the urine, and will require postponement or declension. Chronic cystitis will occasionally come before the examiner, and always

requires an extra premium varying with the cause, or postponement or declension.

With women it is not practicable to secure such satisfactory evidence of disease of the genito-urinary system as in men. As a rule the examiner has to be content to accept a woman's statement, that her generative organs are normal and that she has no hernia. Her abdomen is usually not examined below the epigastrium.

Sometimes if there is a doubt as to the nature of some operation that has been done, the examiner will have no difficulty in inducing a woman proposer to show an appendix scar or that of an abdominal section. Apart from the fact that such examination will only show whether there is a ventral hernia or not, there is little to be gained. The better course is to ask that a medical reference shall be sent out to those responsible for the operation.

In older female proposers, who have a tendency to obesity, and if the examiner has reason to think an abdominal examination is necessary, it should be insisted upon. As a rule, the evidence of alcoholism or other disease will be obtained without examination.

Large fibroid tumours, or ovarian cysts, cannot be detected without examination. In any case of doubt the medical reference should be required, or an examination should be made. It must be remembered in this as in other regions of the body that a minute diagnosis is not required for insurance purposes from the medical examiner, and vaginal examinations are not desired.

Occasionally cases are met with in this country who have been infected in a previous tropical residence with *Bilharzia hæmatobia*. The prognosis of these risks has recently been greatly improved under Professor Leiper's treatment. An extra premium is required for a short endowment policy, until the case has been successfully treated and the parasites have entirely disappeared from the urine.

CHAPTER XXVII

THE EXAMINATION OF THE URINE

THE examination of the urine is of weighty significance in life insurance. Some offices issue special instructions as to the manner in which it is desired that the examination should be made. The information usually required is as to appearance, reaction, specific gravity, and presence or absence of albumin and sugar.

The appearance of the urine is briefly described, and may be clear yellow, or pale, or high coloured, chiefly according to the specific gravity.

It may be turbid and the turbidity may be of any degree from a light opalescence to a deep and an almost opaque condition from phosphates.

It may be turbid from bacteria. Bacteria in a fresh urine are usually due to infection by the *Bacillus coli communis*, and there will be a sort of silky sheen visible when the tube is rotated or moved.

Other conditions causing turbidity of the urine, which are found less commonly in proposers for life insurance, are those due to urates, catarrhal mucus, or pus, and rarely semen.

The nature of the opalescence requires determination, chiefly as to whether it clears up entirely when the urine is acidified, when it will be ascribed to phosphates.

Phosphates in urine may depend on diet chiefly, but are seen also in early phthisis and in neurasthenia. As a rule, there is no significance attached to phosphaturia in life insurance work.

Mucus and pus in the urine will usually require declen-

sion, and bacteriuria will require postponement or an extra premium.

The urine will occasionally contain mucus from the vagina or external generative organs of the woman, which will show as a finely granular deposit, sometimes as small masses. This may usually be readily filtered, when the specimen will become clear. Should it contain albumin, another specimen should be asked for, with precautions as to cleanliness.

Urine may contain, in an otherwise clear specimen, shreds and threads which may be small curled deposits, in cases where there is probably a history of gonorrhœa. These require no extra premium, provided that there are no symptoms and the history is long antecedent.

Urates are not often found. When present the proposer should be asked whether he is "fit" at the moment, about his diet, and, if there is a suspicion from the feel of his skin that he is in a state of pyrexia, his temperature should be taken. Urates may be due to a febrile condition for which the postponement of the insurance may be necessary.

Reaction of the urine is generally acid in clear specimens, though it may be neutral, and in phosphatic urines it may be alkaline.

Urine which is foul or ammoniacal when freshly passed always necessitates postponement or declension.

The specific gravity of the urine should be explained if it is below 1,014 or above 1,028. If the gravity be low —for instance, 1,005—there may be high blood-pressure, or, on the other hand, it may be due to cold weather, or the recent taking of tea or beer.

For small quantities of urine the colour and appearance may be taken as a rough guide to its specific gravity, though the urinometer should always be used if possible.

In some cases the vessels used may not receive enough to float the urinometer, but a test-tube of 1 inch in

diameter may be found to hold enough of a small specimen to float an ordinary urinometer. Such a test-tube should always form part of the urine test cabinet. In other cases the ordinary urinometer test-glass will be found useful, but requires more urine than the test-tube. The small urinometer is often very inaccurate, but if the examiner has one which he has tested against a full-sized instrument, the specific gravity of the urine may be taken in a ½-inch or ⅝-inch test-tube with quite limited quantities.

Very low specific gravity will be found to occur in association with arterio-sclerosis, chronic Bright's disease, in cold weather, and when there has been a meal shortly before the examination which has included one of the diuretic drinks, such as coffee or tea or beer. It is of no consequence when it is due to cold weather or to drink taken recently. It is of great consequence when it is associated with other symptoms, such as high blood-pressure or hypertrophied heart.

High specific gravity may be associated with gross living and excess of foodstuffs, with hot weather, and with deficient fluids in diet. During the recent mild winter, high specific gravities have been common owing to the fact that many people have worn their thick winter clothes while the temperature has been that of a mild day in summer.

High gravity is specially associated in the minds of actuaries and managers of insurance companies with the possible presence of sugar in the urine.

The author has known one family of children, whose parents were both gouty and came from gouty stock, who passed urine which was habitually of a specific gravity of 1,028 to 1,035, and loaded with almost colourless urates. In adults urine containing urates is generally highly coloured.

Albumin in the urine has to be tested for with great

care, as even slight traces of albumin may be significant as regards the future longevity of the proposer. So-called "physiological albuminuria" is often alleged when there is really underlying it some affection which increases the risk of insurance.

Albuminuria is said to occur, independently of nephritis, from exercise, cold baths, an erect posture, mental emotions, and so forth. The great majority of proposers do not present albuminuria in these conditions, and such stimuli are not to be regarded as physiological in individuals who experience albuminuria as a result of them. At the same time the "average" risk for insurance is not a "first-class" risk, and it is possible to insure many such cases at the ordinary rates of premium if certain precautions are taken.

In the first place there should be an absolute freedom from any symptoms or physical signs of other disease, and, secondly, a microscopic examination of the deposit from the urine should always be insisted upon when the proposer's urine contains albumin and he is otherwise normal. The examination should show an absence of casts, red corpuscles, leucocytes, and epithelium. The author considers that though many cases are insurable at ordinary rates when the proposer is young and the urine contains albumin occasionally, presenting no defect on microscopic examination, yet the greatest caution must be exercised.

Some offices will not take any case which has a trace of albumin. Such offices must, however, certainly take cases of intermittent albumin occasionally, because some of their proposers must present themselves for examination at a time when they are free from albumin. It seems more logical to investigate each case of albuminuria in young proposers separately.

Repeated examination of the urine should always be desired when a young proposer is found to have albumin

and the urine is free from defects microscopically. The presence of albumin once in three times only under these conditions may be regarded as satisfactory, provided that everything else in the case is satisfactory. In some offices, if the urine in a young proposer contains albumin but is free from other defects microscopically, the proposer will be accepted, but renewal will be subject to satisfactory tests during the first year of insurance, or, if the proposal be for a policy with profits, which means that the proposer pays a slight extra premium, the policy will not rank for the profits until the urine is proved to be quite normal.

The escape of semen with the urine is an occasional circumstance of a rare kind which occasionally causes a transient albuminuria, which is easily detected on microscopic examination of the specimen. A second specimen would probably be found to be free from albumin.

The absence of albumin is the essential thing to establish for life insurance, and the author nearly always uses the solution of picric and citric acids known as Esbach's test. An absence of any turbidity when this test is used is an indication of the absence of albumin, as well as of certain other things. If, however, this test should prove to be positive and a turbidity is obtained, it is insufficient, because Esbach's fluid will precipitate uric acid, kreatinin, nucleo-albumin, mucin, etc., which are not necessarily important from the life insurance point of view. Esbach's test is only valuable as a negative test for insurance purposes.

Some offices issue on their medical forms printed instructions as to the manner in which the urine test should be conducted, and one method which is largely used is to acidify the urine with a few drops of a 50 per cent. solution of acetic acid, add to the acidified urine one-sixth of its bulk of a saturated solution of common

salt (or other neutral salt), and then boil the mixture, when the turbidity or deposit, produced in the heated mixture, will indicate the presence of albumin. This method, which is described by von Jaksch, is said by him to be absolutely certain to demonstrate a minimal amount of albumin. It has the advantage of being easily performed in the house of any medical man.

When albumin is found in a young proposer, generally in good health, further specimens should be examined, and these should be taken at various times in the day. For instance, a specimen taken at rising, and brought to the examiner in a bottle, will often be found to be free from albumin, whereas a specimen taken later in the day, after the day's effort has occurred, may be found to contain albumin.

In many offices, where a day's specimen shows albumin and that taken first thing in the morning after rest shows no albumin, and a microscopic examination of the mixed specimens shows an absence of any casts, or crystals, or blood-corpuscles, the case may be accepted as an average risk. In my opinion this does not mean that these cases are all of them "first-class" lives, but only that a majority of them, indeed a large majority, will eventually recover from the so-called "adolescent" type of albuminuria from which they are suffering. A few of them will develop nephritis later on in life, and so would other lives, but on the whole they may be regarded as average risks for insurance, if everything else is normal.

Should the albumin be constantly present, although a microscopical examination shows an absence of casts, crystals, and corpuscles, it is wiser either to postpone a decision until the urine is found to be normal on repeated examination, or to charge an extra premium, or if the policy proposed be a "with profit" contract, to defer the profits until the urine is satisfactory. Personally,

the author is of opinion that a constantly present albuminuria is best postponed for life insurance.

Albumin in older proposers should always be regarded with suspicion. When proposers of thirty or over have constantly albumin in the urine, the condition is a defect of which the possibilities are quite unknown, and therefore the case is not assessable.

The presence of crystals, or blood-corpuscles, in the urine will mean the risk of calculus, of tubercle, of inflammation in some part of the urinary tract—such as, for instance, cystitis—or gonorrhœa, or the possibility of growth. Crystals and blood-corpuscles, with a history of renal colic, demand an extra premium or exclusion of the risk of "stone."

Hæmaturia may signify early tubercle or growth, or gonorrhœa, or stone. Hæmaturia cases should never be accepted.

In taking specimens of urine from women the question should always be asked as to the date of the period. Urine taken just before or just after the period (and, needless to say, always during the period) will give an albumin reaction, and perhaps a blood test. Should albumin be discovered in a female proposer's urine she should be asked to submit another specimen at a time quite away from her period.

The test for sugar which is usually adopted is by Fehling's solution. This is usually kept in two bottles, and an equal part from each is poured into a test-tube. When large numbers of specimens have to be examined, half an ounce of the solution may be prepared, even more if it is likely to be used up quickly. This solution does not keep well when it is mixed, though its keeping powers depend to some extent on the temperature of the room and the action of light. In all cases of doubtful reaction freshly prepared solution should be used.

For life insurance the essential thing to establish is

the absence of sugar, and Fehling's solution is very valuable as a negative test.

In adding the urine to the Fehling's solution before boiling it is important to remember that very dilute urines require a larger amount of urine to be added. For instance, the author has seen a sugar reduction of Fehling's solution occur with a urine of a specific gravity of 1,005, the proposer having taken large quantities of water, presumably with the idea of preventing a definite sugar reaction. For ordinary specific gravities of 1,014 and upwards equal quantities of urine and the test solution should be employed. For urine of lower specific gravity, up to two or even three times as much urine as there is of the test solution should be used.

The absence of any greenish-orange to brick-red precipitate will show the absence of sugar. In healthy urine the solution should be practically the same colour after boiling as it was previously.

When a reduction of Fehling's solution is obtained, it is advisable to question the proposer as to his immediately preceding diet. His answer should be stated in the report. If this sheds no light on the position he should be asked, without comment as to the nature of his affection, to come again the next day for a further test of his urine, the examiner simply saying that he is not quite satisfied. It is best not to give any information, as, on the one hand, he may be prepared for examination before the next interview, or, on the other, he may become unduly alarmed. A further presence of sugar would cause the examiner to recommend postponement of the risk, and the proposer should be referred to his medical attendant.

In these days of extreme competition between offices, it is not advisable to dismiss cases peremptorily for albumin or sugar. It is better to ascertain the nature of the albumin or sugar. Sugar in the urine may be a temporary glycosuria, or due to real diabetes.

Temporary glycosuria is a source of great difficulty at the head offices of insurance companies. Some of these cases are associated with obesity, some are due to excessive fondness for sweets, or potatoes, or bread; some are due to excessive indulgence in starch or sugar an hour or two before the examination; some are due to the proposer having taken certain other substances, other than sugar, with his diet. It is probable that some of the sugar substitutes used during the war were of such a nature as to be unabsorbable by the body, and to be eliminated rapidly by the kidneys.

Some cases of intermittent glycosuria will undoubtedly end as diabetes.

It has been the author's custom for some years past, in cases of intermittent glycosuria, to order a simply remembered test meal. The proposer has to take, in the presence of an inspector or agent of the office, two cups of tea with two ordinary large-sized lumps of sugar, or two teaspoonfuls of sugar, and the usual quantity of milk in each, two buns of the ordinary so-called "penny" size, and two desertspoonfuls of marmalade, and to submit a specimen for examination two hours afterwards. Cases that present no sugar after this test meal, and are, of course, under no treatment, are usually taken at ordinary rates—that is, if the questioning at the time of the first examination has shown that there was an excessive indulgence at the meal an hour or two before.

The sugar test by Fehling's solution is very characteristic when it is distinctly positive. The lesser reductions are, however, less characteristic, and it may be necessary to send the specimen to a public laboratory for examination by a phenyl-hydrazin test or a fermentation test to make certain that the reducing substance was really sugar.

Benedict's solution presents advantages in that it is not caustic, keeps well, and small quantities of urine

are sufficient to cause the precipitate to appear. Its composition is as follows:

Sodium citrate..	173 grams.
Sodium carbonate, dry	90 ,,

These are to be dissolved in hot water and filtered. Add to this solution 100 c.c. of copper sulphate solution, containing 18 grams of the salt, with constant stirring. The whole blue-coloured solution is made up to one litre with distilled water.

It is not uncommon for practitioners who have treated diabetes, or glycosuria, in an individual successfully—that is to say, when the sugar has disappeared from the urine—to claim that the glycosuria was "merely" dietetic. A test meal should be given in all such cases, and the refusal of a proposer to take a test meal should be regarded as an adverse feature preventing his acceptance.

It is to be remembered that insurance may be prevented by a single serious adverse factor, and no number of good factors will compensate for this. It is also to be remembered that the removal of one bad factor does not necessarily mean that the case is otherwise a desirable risk to insure. Glycosuria with obesity is often rejected, partly on account of the glycosuria, and partly on account of the obesity.

CHAPTER XXVIII

THE TUBERCULOSIS EXTRA RISK

THE risk of tuberculosis of the lungs is one of the chief dangers that insurance companies have to face.

It is to be remembered that extra premiums may be imposed by an insurance company to cover the risk of phthisis or other risks, but there is no legal obligation, in this country, on the part of the insured to maintain their policy, whatever may be the form of contract proposed.

An office, having once granted a policy, and the premiums being paid, is bound to pay its face value should death occur. On the other hand, a proposer who may have been "rated up" may find it to his advantage to drop a policy that he holds with one office, and take up a new contract, either with the same or another office.

For instance, if we suppose that a proposer aged twenty-five has to pay a premium corresponding to age thirty-two (whether this "extra" be applied as an addition to the premium or as a deduction from the sum assured), if his circumstances and physical condition improve during the few years subsequent to his contract, it may be to his advantage, after having enjoyed the protection of the policy even for five or six years, to apply for a new contract and drop the old one.

In other words, the good lives may leave the company, and the bad lives will keep up their premiums.

Extra risks may be such as will tend to increase the mortality during the earlier years of an insurance policy, such as a family history of phthisis, or there may be a constant extra or an increasing extra. A constant extra

or an increasing extra are smaller varieties of the phthisis extra risk.

We shall see when we come to speak of cardio-vascular conditions and of habits and occupations, groups of extra risks which are of a constant or increasing kind.

An extra risk from phthisis arises from:

1. The family history.
2. The deficient physique of the proposer.
3. The constitution as affected by exposure, repeated colds and catarrhs, habits, and occupation.

The first of these risks may be considered to be a decreasing extra.

When a proposer has a family history of phthisis, which may involve his father or mother, or brother or sister, or, more remotely, his uncles and aunts and grandparents, there is in most cases a risk, greater than the normal risk, of his dying of phthisis. This may possibly be due to family infection; it is certainly due to a greater or less degree of inherited vulnerability. The vulnerability of a proposer may be shown by a lack of weight, pallor, a history of gland operations in the neck, of the presence of scars of such abscesses, or by joint or bone disease. In some proposers it may be entirely overcome by robust physique, a healthy occupation, and by an absence of any signs of a previous attack.

Every degree of "extra" may be required.

For instance, a proposer of twenty who is thin and pale, and who has a family history of both parents having died of tuberculosis or consumption, will require postponement or a very large addition, perhaps fifteen or twenty years, which may be applied as a diminution of the sum assured. This diminution may be a "fixed debt" during the duration of an endowment policy, or during the expectation period of a whole-life policy. Or the deduction representing the extra premium may be much higher at the beginning of the insurance, and

run down as more premiums are paid. This is a "decreasing debt" or "reducing debt" on the policy.

In some offices this method is usually adopted, and policies are issued to such lives in which perhaps there may be an initial debt of 80 per cent. or even more, running off year by year by equal instalments until the termination of the period of insurance; that is to say, the proposer pays at first for a much larger insurance than he gets if he dies early.

The family history of phthisis, with any possibility of the proposer's vulnerability, is the condition before all for the imposition of an extra premium applied as a reducing debt.

Some actuaries believe that a reducing debt is not so acceptable to the insuring public as a fixed debt. On the other hand, a great insurance company is now applying all the extras on decreasing debt, even up to 85 per cent. of the sum assured.

Although a family history of tubercle may form a large initial extra risk in proposers at the younger ages, yet the risk is not extinguished even at the latter ages, when the relatives have succumbed to tubercle themselves in the latter years of their lives. For instance, it may be necessary to charge an extra premium on a proposer aged thirty, whose father died of consumption at the age of forty-five, if the proposer himself be below average weight and engaged in a sedentary indoor occupation.

A constant extra risk arising from the danger of tuberculosis exists where the proposer himself is of poor physique, subject to constant colds and coughs, and is engaged in an unhealthy occupation. With such cases, even if there be no family history of tubercle, an extra premium is often required for the phthisis extra risk, and may be applied as a "fixed debt." Such cases are, of course, liable to death from other causes than phthisis, an additional reason for obtaining an "extra."

An increasing extra risk from phthisis may exist in unhealthy occupations, with persistent and frequent colds and coughs, even if the proposer at the time of entry be apparently in good health. Often such an increasing extra may be said to arise from the tuberculosis or phthisis risk, yet it is to be remembered that as life progresses there is an increasing risk also arising from the many causes of death that occur in the later years.

It is impossible to give rules for the assessment of the under-average risk (or extra risks) which may be due to phthisis or tuberculosis, as in all forms of insurance every case must be taken on its merits. But it is interesting to note, from a large experience of various offices, how closely their practice corresponds. The life which is charged an extra premium of seven years in one office will be granted very nearly the same terms, or even identical terms, should he decide to try to insure elsewhere.

Although the insurance companies are engaged in a strenuous competition, and one office will often give more consideration than another to certain classes of risks, yet the phthisis extra risk is so well appreciated that it is dealt with in much the same manner by all.

There is, however, one factor in the social history of the evolution of phthisis which will enable the discriminating medical officer to deal more favourably with some of these risks than the medical officer who is prejudiced and conservative. Social conditions may favourably affect the risk. For instance, a man of leisure who has the same family history as a hard-working warehouseman, and presents similar signs of vulnerability, is a better life.

An improvement in the prognosis of tuberculosis, which is believed to exist, will affect the whole class of tuberculosis extra risk equally.

It is to be noted that although proposers are accepted

individually, yet, after acceptance, each proposer becomes one of a group in a similar class. Although a proposer may be "rated" seven years for a particular hazard applying only to him, yet when he is accepted and the policy is completed he belongs to a class which may be called the "seven years' rating" class at his age. He may never die of the disease for which he was "rated up," but may possibly outlive the normal expectation of life, or he may die of some accident, or of some affection or disease quite unconnected with that for which he was charged an extra premium. His class, as a whole, will die, however, at an increased rate from the time of their insurance.

The insurance office is concerned only with the financial problem of paying the claims for deaths, and the manner in which these deaths occur is of little moment to the laymen at the head office.

Each office has only a limited experience, however, and any figures that could be gathered from such experience are perfectly useless.

It is chiefly for this reason that so little has been done by English insurance companies to investigate the problems of disease.

It is the urgent desire of every medical officer of an insurance company to get more accurate means of assessing lives. If there be this difficulty in making rules or plans for such a common cause of death as tuberculosis, one can appreciate how much less accurate and more opinionated our practice must be in regard to the individual cases of other diseases.

In cases of quiescent or dormant tubercular disease at the apex, or in cases of fibrosis, there may be few or no signs to be heard. An inference must be drawn from the history, weight, condition of the patient as regards anæmia, the blood-pressure, and the appearance of the chest. In other cases there may be detected rhonchi at

one or other apex, or at both, or the proposer may have an area of dulness in the apex of the lower lobe, or laterally. There may be signs of enlarged glands at the roots of the lung.

It is very rare for a proposer to present himself with signs of active phthisis, but occasionally it happens.

Anæmia, especially anæmia of the palate, is an important corroborative sign of dormant or active tubercle, but it must be taken into account with the other aspects of the case.

Any suspicion that the proposer is actually suffering from tubercle involves postponement of the risk.

CHAPTER XXIX

THE CARDIO-VASCULAR EXTRA RISK

THE cardio-vascular extra risk presents a large class of cases to the insurance examiner. Unlike the phthisis risk, a family history of cardiac degeneration or vascular degeneration exercises its detrimental effect in the latter years of life, and not in the earlier. A family history of cardio-vascular degeneration may be associated either with cardiac lesions or with vascular lesions. It is difficult in many cases to decide whether the unfavourable heredity is only cardiac, or vascular. It is better for insurance purposes to regard an adverse history of heart failure, aneurism, or apoplexy in a parent, as having a similar significance. They suggest an inherited weakness of the circulatory system.

There is little doubt there may be an inherited "tissue-proclivity" to disease in the various systems of the body —for instance, the cardio-vascular, the respiratory, or the urinary. In the respiratory system a tendency to bronchitis or asthma may be found in several members of the family of a parent who had the same disease. A tendency to renal breakdown is a well-recognized condition, and stone or Bright's disease may be present in an individual whose parents have suffered from these affections. It is as though certain systems of the body were marked out for a breakdown before their time.

No doubt a great deal of stress has to be laid upon the strains or excesses to which that system may have been particularly exposed. But the significance of an early family breakdown in one of these essentially vital

groups of organs is a necessary factor in the assessment of life risks.

A man of ninety-three who dies of "heart failure," and has enjoyed full possession of his faculties to that advanced age, and a man who died of arterio-sclerosis at fifty-one, are very different lives for their posterity.

Angina pectoris, the cause of which may never be stated in the death certificate of a parent whose medical attendant knew that it was due to syphilis, leaves a tendency to a similar termination in a succeeding generation. Apoplexy, which may have been due to syphilis, or to the arterio-sclerosis which accompanies Bright's disease, or associated with alcoholism, may never have its antecedent cause expressly stated. The proposer will often say that his mother or father had a "stroke," and the examiner must be on his guard, not only as to the proposer's blood-pressure and urine, but also as to his occupation and habits.

Another great group, besides the high blood-pressure type of cardio-vascular degeneration, is that of the rheumatic affections.

Rheumatism, no doubt, is an infection, but it is an infection which, like tubercle, strikes much more in certain families than in others.

It is not uncommon for all forms of hereditary disease to visit themselves more particularly on one sex or the other, and a family history of tubercle or of rheumatism may hit only the one side of the family. This is only partly true, as a son who closely resembles his mother in appearance and general build may also have received from her his particular tendencies to morbidity.

Rheumatism in himself, or rheumatic heart disease in a brother or sister, may not involve any tendency to a heart affection in a proposer; but in view of the frequency with which infantile rheumatism is overlooked, and the dangerous superstition as to "growing" pains, the examiner must be careful about the heart examination.

Gout also, if associated in a parent with apoplexy or angina pectoris, may involve a similar tendency to breakdown in the proposer. But gout, where the parents have survived to great ages, and the proposer himself is of such a blood-pressure, occupation, and habits, as suggest that he will follow in their footsteps, demands no extra premium, provided the urine is of a normal specific gravity and free from albumin.

It is by the cardio-vascular system that insurance companies live. Death from old age means death from arterio-sclerosis, but the arterio-sclerosis is not premature. Vitality means healthy blood in healthy bloodvessels much more than anything else. Any of the poisons which are recognized to be agents of destruction, whether injected, or inhaled, or ingested, may put an end to life. The insurance examiner has to recognize, while the proposer is still well, that such poisons may be acting, more or less slowly

Where there is a tendency to die early from cardio-vascular disease, some insurance companies prefer that the proposal should be for an endowment period well below the age at which the death or deaths occurred. Early entry gives much better results than late entry.

In cases of rheumatism in the family history, with one or two deaths from heart disease of whatever kind, the proposer must be judged only by his own case. If he has arrived at an age, say thirty, where there is little likelihood of a first attack of rheumatic fever, and he is otherwise normal, there is no reason why a very adverse family history of heart failure from rheumatism should necessitate an extra premium.

CHAPTER XXX

OCCUPATION AND HABITS

Occupation and habits have not only an intimate association with the phthisis and cardio-vascular extra risks, but also in many instances extra risks of their own.

An investigation of habits has already been mentioned, and the importance of insisting upon an accurate answer to questions about alcoholism was pointed out. It has also been stated that what is excessive alcoholism in one individual may be considered insurable in another, and this fact will depend on his other habits and perhaps his occupation.

As in everything else in life-insurance practice, every case must be judged according to its own surroundings. It is, for instance, impossible to say of two lives taking five or six glasses of whisky or wine in the day that they should be accepted for insurance at the same rate, or for the same period.

Though "habits" usually denotes the habits in regard to alcohol, yet the habits of life generally are important considerations. Continual work in a foul atmosphere, excessive exercise going beyond the needs of the body, smoking to excess, may all be detrimental factors in the assessment of a life risk. On the other hand, a cheerful temperament, a light daily task, an open-air life without fatigue, may compensate even for some of the risks that may arise from consideration of the family or personal history.

The habitual use of alcoholic liquors beyond the physiological limit is always a detrimental factor. In

most offices, a distinct doubt about the use of alcohol will cause declension of the risk. Some cases may be taken with an extra premium, such as is imposed for members of the drink trade. In some cases an endowment policy may have to be insisted upon. In other cases, with fine physique and a large amount of muscular exercise out of doors, and a good family history, there is scarcely any extra risk in moderate degrees of alcoholic excess.

The typically bad risk is that of a man who drinks between his meals, such as, for instance, the city man who has the habit of "bracing himself up" for his day's work by taking a glass of brandy-and-soda. The "bracing up" process is usually repeated many times during the day, and though never drunk he is a much worse life than the farmer who gets intoxicated on every market day and during the week between takes only his pint of beer with his dinner. Neither of such lives may be considered as good as the man who is an abstainer, in similar walks of life, nor as good a life as the proposer who drinks only moderately at meal times.

Excessive and coarse habits of eating may also lead to damage by obesity, kidney disease, or cardio-vascular degeneration, particularly if accompanied by sedentary habits.

In regard to drug taking, it is important to remember that many people take poisonous drugs, not necessarily on the schedule of poisons, under a mistaken notion that such things are beneficial because they relieve some symptoms.

The author has seen a lady who was insuring her life, with her lips cyanosed and a rapid irregular pulse, who had taken six tablets of phenacetin that morning. It was her custom to do so for slight internal pains, and she always carried a bottle of phenacetin with her. The habitual drug taker must eventually do damage even if

the drug be phenacetin or aspirin. Still more must this be the case if the drugs are of the hypnotic kind. It is only if there has been a series of deaths from the abuse of any drug that it is put on the schedule of poisons. It would be much better if every chemist were allowed a list of drugs of which the properties and doses were stated on the packages, and that no other drugs should be allowed to be sold by him to the public than were included in a schedule of medicines. Poisons required for economic purposes, and not for self-administration, would be no more open to abuse than they are at present, if sold with similar precautions to those now adopted.

Smoking to excess is like drinking to excess, a relative term, but with tobacco there is probably a larger margin between excess and moderation than there is for alcohol. Whereas for alcohol a daily two ounces may be considered to be the physiological limit, yet it is by no means unusual to find smokers who average an ounce of tobacco a day without apparent detriment to their heart or blood-pressure. With cigar smokers there may be any number from one to ten or more, and with cigarette smokers up to thirty or forty in the day.

A doubt as to excess in the use of tobacco will arise when the proposer has an irregular, unequal, or intermittent pulse, or his blood-pressure is raised.

Some offices desire an answer to the question as to what amount of tobacco is consumed in the week, but to the author's knowledge they are satisfied with an answer that varies between three or four cigarettes a week and 150 in the week provided that there are no symptoms of tobacco poisoning. Should there be an intermittent or irregular pulse in a case where a large amount of tobacco is consumed, it is best to retest the proposer early in the day after asking him to abstain for a day or two. A past history of tobacco poisoning, including even amblyopia, if the habit has not recurred

and the proposer is well, entails neither an extra premium nor delay in acceptance in comparatively young proposers.

In proposers approaching middle life and later, tobacco poisoning involves risks of high blood-pressure ensuing.

Occupations have very varying mortalities, and the following table shows the comparative mortality of certain occupations.

It is derived from the supplement of the Registrar-General's Report (Sixty-fifth Annual Report, pub. 1908). Ages twenty-five to sixty-five:

All males	1,000
Clergymen	524
Physicians, etc.	952
Schoolmasters	665
Musicians	1,261
Farmers, etc.	596
Brewers	1,393
Innkeepers, etc.	1,808
Drapers	845
Butchers	1,148
Hatters	1,137
Commercial clerks (insurance)	911
Civil Service clerks	723

These are sufficient for a sample, but certain considerations arise when the various classes are dealt with by medical selection.

Although the comparative mortality, as will be seen, varies so largely, yet one of the chief effects of medical selection is to reduce the excessive mortality of occupations dangerous to life. For instance, as a class a clergyman's life is at least twice as good as that of the butcher, yet the clergyman has to pay for his insurance the same rate as the butcher. This seems at first to be an unfair condition for the clergyman, but it is to be remembered that the detrimental factors in the clergyman and in the butcher will be treated very differently

when the case comes forward for assessment at the head office. It would vary also with the position and environment of the two lives. It is clear, therefore, that a considerable number of under-average clergymen must be insured, while the bulk of the butchers who are insured are the best of their class.

There are certain occupations, however, for which it is the custom of most insurance offices to demand an extra premium, and the chief of these is that of the licensed victualler, including the brewer, and the wine and spirit merchant. Only select lives of publicans are ever accepted, yet the risks of the occupation are very great. This is not only a question of the "drink extra risk," though that causes a large number of deaths, but it is due to the fact that the drink hazard is combined with the largely sedentary life, bad atmosphere, the danger of infection from a certain class of customer, and the long hours to which a publican is exposed. It is not the business of insurance companies to advise reform in the trade of selling drink, though legislation seems never to have been more inept in any country in the world than in handling this problem.

It is possible that there may be a diminution in the mortality of publicans, and strenuous efforts are put forward in every insurance company by the agents to prove that the particular publicans whom they desire to insure are superior lives to the average publican. What is really meant is that they believe them to be superior lives to the worst publicans.

But the risks remain which arise from the manner in which the trade is carried on even in the class above the worst, and no insurance office will accept those engaged in the drink trade without an extra premium of from ½ to 2 per cent. per annum on the sum assured. Some offices will not insure a publican or anyone engaged in the selling of drink under any circumstances. The

worst publicans are, of course, quite uninsurable even by offices that take risks of the select class.

There are certain other occupations which involve extra risks that are much less common. The slaughtering butcher, for instance, runs grave risks from the possibility of accidents and inoculation with dangerous diseases. The "underground mine manager," the worker in explosives, whether a research chemist or a manufacturer, and certain noxious trades have to be considered, each case on its own merits, when they come forward for insurance.

There are certain occupations in which there are risks which have to be considered separately in each individual, varying with the class of work. For instance, musical and dramatic artists have to be carefully selected. They are, as a class, not long-lived, but as individuals many of them are acceptable at ordinary rates. The particular risks to which they are exposed are alcoholism and tubercle.

In other classes of occupation there are grave risks—as, for instance, in soldiers and sailors. Nearly every office has its own way of dealing with these risks. It is not an unusual practice for offices to accept at an increased charge—say, of ½ per cent. per annum on the sum assured—all risks, including foreign service and the military hazard, provided the insurance is effected in time of peace, and when not under orders for the tropics.

The experiences of the late war have shown that the risk increases down to the subaltern, and decreases from the subaltern down to the private. At one time during the war a charge of twenty guineas per cent. extra premium per annum was found not to be excessive to cover the risk of death in the subaltern during one year.

CHAPTER XXXI

LOAN BUSINESS

THERE is a class of business which is almost a speciality among certain offices, where the contract has to cover a loan as collateral security. Some "loan" cases are good for insurance, and some are bad. The majority are bad.

The borrower in real life is a man who is often improvident, and of careless habits, and in more cases of bad habits. Any one of these things renders the case less desirable than the business which can be called purely provident. The man who insures his life so as to provide for his wife and children is, as a rule, a better risk than the man who has borrowed money and is obliged to assign his policy to the lender.

Loan risks include a number of what are called "West End lives." These cases are sometimes alcoholic, and are sometimes also coached for insurance. The examiner is not always told that the case is a loan case, but if he fills up his examination form frankly and fully, the chief medical officer will be able to assess the risk fairly.

The author has met with all classes of loan business. One case that fixed itself in his memory was that of a man of title approaching fifty years of age, who was interviewed by the old family solicitor on the day of the proposed insurance. He was raising money to mortgage his property, for which he had to deposit a life policy as collateral security. The lawyer told him that he deplored the fact that he would not live within his means; that he and his wife had crippled the estate;

that his son would inherit, at the outside, less than one-fifth of what he himself had inherited. The proposer, somewhat emotional, was reduced almost to tears by the interview with the lawyer. The lawyer told him that his affairs were in such a state that his annual expenditure must be limited to £12,000 at the very outside. His former wealth which he inherited amounted to £70,000 per annum. On the way to be examined for insurance, that very day, passing a well-known art dealer's in Bond Street, he was inveigled into the dealer's premises and bought for £9,000 a set of engravings to decorate the library of the country house! The life was an unexceptionable one of magnificent physique.

In another case a man insured for a large sum and assigned the policy and blew out his brains on the day of renewal of the policy. It was found that his affairs were hopelessly involved at the time of the policy being set up, that he owed large sums of money, that the whole of his available cash had been paid in premiums, and that the policy provided a very considerable margin for his widow and children. It seemed to be clear that this proposer had contemplated suicide for at least one year, knowing that the office would be bound to provide.

In another case—that of a drunken spendthrift and ne'er-do-well, whose medical examination was quite satisfactory, though the agency that introduced the business was suspect—it was found that before medical examination was arranged, a loan had been granted, for which the policy was required as collateral security. As soon as these preliminaries were completed the young spendthrift was taken to the country house of the agent, all alcohol was locked up, and he was put on horseback and spent an active, open-air life training for the medical examination. It was only by private enquiry that the real nature of the risk was discovered.

The reinsurance of loan business requires very careful

investigation before the reassuring office should be advised to issue its acceptance. The information stated, which is very often meagre, requires supplementary investigation by all the resources available. This may include private enquiries, and the fullest information obtainable from the directors and officials of the re-assuring company.

CHAPTER XXXII

ANNUITY BUSINESS

When special terms are claimed by a proposer to enable him or her to obtain an annuity greater than the normal for his age, on the grounds of health, an examination is required.

The examiner is usually told the nature of the proposal. In this case it is sometimes to the advantage of the office to employ the medical attendant of the proposer as examiner. It is not always a success, as there is occasionally a tendency to exaggerate the symptoms from which the proposer is suffering.

A female proposer stated that she was suffering from advanced heart disease, and demanded an extra premium. She was examined by her own medical attendant, who stated that she had a loud mitral systolic bruit, that her pulse was 67 per minute, that her heart was enlarged, and gave an estimate of her expectation of life as being at the outside two to three years. Ten years later the same proposer made another attempt to sink capital in the same office on the same grounds.

In another case a doctor suffering from aortic and mitral disease was insured for an annuity fifteen years before his death, which occurred from suicide from an overdose of chloral. Life even with a substantial annuity had become intolerable for him.

The examiner must recollect, when he is asked to examine for an annuity proposal, that the tendency is for the proposer to expect a very large annuity for a very long time, which, of course, is an impossibility. In other

words, the proposer tends to exaggerate all the conditions from which he may at any time have suffered. The author has had a claim advanced for an increased annuity on the grounds of the proposer's intemperate habits, a circumstance which could never occur in a life insurance proposal of any kind. An insurance office can no more anticipate that a proposer's habits will continue to be excessive than it can expect a proposer whose habits are excessive to become of moderate habits.

The proposal for an annuity involves medical examination, which is in every particular the exact opposite to that for a life insurance proposal.

It is necessary for the examiner for an annuity, no less than for the examiner for ordinary life insurance, to be accurate and without bias. It is his province not to minimize, and, above all, never to exaggerate, the symptoms or physical signs.

An annuity nearly always means long life, and the ordinary annuity business of an office is scarcely remunerative directly.

It would seem at first sight that any attempt to estimate the mortality of a life would be the same, whether it is for an annuity or a life insurance proposal. But an annuitant can live where he likes, and how he likes; whereas the ordinary proposer has usually to be exposed to all the common hazards of existence.

The author has had the difficulty placed before him by a proposer that, as he was rated up considerably, nearly ten years' addition in this case for an ordinary life proposal, he should be advanced a corresponding period for an annuity proposal, saying that he was quite prepared to retire. Needless to say, the office did not see the matter in the same light as the proposer.

A gentleman suffering from Bright's disease, with an enlarged heart, and a high blood-pressure, was retired at age fifty-two on a pension in advance of that to which

he was entitled. His friends sympathized with him on his poor health. He retired to a South Coast town, and outlived all his sympathizers, dying at the age of eighty-five. He suffered from his diseases up to the end, but an equable temperature and temperament, and an absence of all anxiety as to his future, were sufficient to prevent his diseases killing him.

Even after a cerebral hæmorrhage, life may be greatly prolonged with an annuity.

It is perhaps a fair estimate in many cases that demand higher terms for an annuity proposal on the grounds of ill-health, to say that an extra premium implied by an addition of years should be no more than half that required for an ordinary proposal, and in some cases even less.

CHAPTER XXXIII

FOREIGN LIVES AND RESIDENCE

COLONIAL and Indian lives, as well as those of European residents in the tropics, form a large part of the insurance business of certain companies.

Every race in the world is insured by English offices. Every racial peculiarity is, therefore, a matter of importance to the insurance examiner, who may be employed in Europe, or in the colonies, or in the dependencies, to examine either native lives, or those who were born in the old country, and for some time of their life have had to live abroad.

It is often said that because many Germans are obese, an obese German is not to be regarded necessarily as bad a life as an obese Englishman. A large abdomen is also common among Belgians, French, Dutchmen, Italians, and Spaniards.

Some of the Indian races, including the Mahometans and Parsees, the older Arabs, the prosperous Turk and Armenian, also often show an increased abdominal measurement.

It is probably true to say that in all these races abdominal obesity is just as detrimental a factor for insurance as it is for the Englishman.

It does not seem to matter very much whether their fat is due to the large amount of liquid in their diet, to the oily nature of their food, or to the large amount of sugar and starchy compounds that they take. On the other hand, some of the Hindus are extraordinarily small-chested and of short stature.

The usual practice is to take into account the family

history as a very important point in assessing the life, in association with the surroundings of the proposer and his personal history.

It is not uncommon for offices that insure native lives to charge a considerable extra premium, on account not only of the special risks arising from the country in which they live, but also because, among the insuring classes, which would mean well-to-do natives, there is often a tendency to ape the vices of the worst class of the foreign residents among them.

The examiner is usually a medical practitioner attached to some public service—such as, for instance, the Colonial service or the Indian medical service. He should always be careful to secure, during his examination, some description of the marks that may lead to identification of the proposer after death.

In addition to identification, the examiner must also remember the diseases which are indigenous to or endemic in the country.

Otherwise the examination is conducted in much the same manner and with the same precautions as the examination of an ordinary proposer at home.

Obesity, or, on the other hand, excessive spareness, are possibly to be less regarded, but not under any circumstances to be dismissed from consideration, when the life is that of a proposer whose religion has caused him to follow a certain rule of diet. The religion is, therefore, usually asked as one of the questions in the examination form.

Impersonation is not unknown, and great care is necessary when settling claims to prove the identity.

In Egypt and Eastern Europe, although there are risks which lie outside medical consideration, there are certain races in which it is sometimes part of the duty of the medical examiner to consider what sort of medical attendance is available or likely to be employed.

The risks which lie outside medical consideration include political, and in some cases tyrannical murder, and the state of the regions to which the proposer's business may take him. These risks are bound to be considered by the head office, and are usually dealt with more or less satisfactorily by the agent or the branch of the company.

Lives of Europeans dwelling in Europe, but outside the British Isles, are frequently insured.

Lives of Europeans may be divided into two great groups—the Scandinavian and the Southern European, including the Latin races. The Scandinavians include Danes, Swedes, and Norwegians, and are very much the same as the natives of the British Isles, so far as their insurance risks are concerned. The Southern European and German are not quite as good, and often tend to overweight early in middle life among the insuring classes. This peculiarity is often of dietetic origin. It may be associated with the free consumption of more or less dilute alcoholic beverages, with gross habits in feeding, or with peculiar methods of cookery, including much fat or oil in the preparation of food.

When insuring Southern Europeans in an English office, it must be remembered that the rates charged by offices in their own country are usually considerably higher than the English rates. This is not a matter for the medical examiner, but it has to be taken into consideration by the head office of the company for which he is acting. As a rule, the difference in premium corresponds to about five years' addition to the English rates. It is a little less in the case of German and Dutch lives. The most careful selection is necessary.

When the lives of Hindus or Mahometans or Parsees in India, or negroes, or Arabs, are insured in an English company, the addition is even more than for the Southern European, and about ten years added to the age may be taken as an equivalent premium.

Occasionally the examiner has to see a negro or an Indian life resident in England. Such lives are not as good as the average English life. This arises partly from the fact that they are not living in the temperature adapted for their race, and that there is what some actuaries consider to be an "attenuated vitality" resulting from the previous generations of their ancestors having lived in a hot climate. At any rate, it is certain that such cases are not as good as those of the British born when they are living in the British Isles.

There is a difficult problem submitted to medical examiners when they have to examine British residents in the tropics. All the usual precautions must be adopted, the special risks of the climate must be recognized, and particular attention must be bestowed on the age of the proposer, the time he has been in the country, the illnesses from which he has suffered, and the probability of their recurrence.

Young lives below the age of twenty-three when sent to the tropics are unsafe. They die at a much quicker rate than similar lives at home. But the risk of death diminishes with time, except in certain dangerous districts, such as the bush on the coast, the deltas of rivers, and swampy and undrained localities generally.

The nature of a man's occupation, and the districts into which he travels, have a great deal to do with the nature of the risk. His occupation should always be most carefully verified, and any risks that may arise from the journeys it entails should be mentioned in the medical report.

There is an improvement near the chief centres of residence and government as compared with twenty years ago, but many of the unhealthy districts in which trade must be still carried on remain as they were. The habits of traders have greatly improved. Formerly there was a great abuse of alcohol, not to mention various other vices.

The habits of the proposer require particular attention in the tropics.

On returning from the tropics the proposer may have to undergo an examination in order that his policy may be free from the payment of extra premium that was required during his tropical residence.

Should the proposer have suffered from any of the tropical diseases, the most careful enquiries are necessary as to the frequency of the attacks, and the last date at which the proposer suffered from them, and whether there be any symptoms in the least degree to be possibly referred to a previous tropical disease.

The author has had brought to his notice a case where a proposer had dysentery, was stated to have been cured, and only to have a very occasional attack of "slight diarrhœa." The last attack of dysentery was eighteen months before the proposal. The proposer was unfortunately accepted, but died within six months of a relapse of his dysentery in this country.

Should there be a history of dysentery with any slight tendency to diarrhœa or mucus at any time in the stools, or a little blood (which may be ascribed to "piles"), the greatest caution must be exercised in advising acceptance. The fullest examination must be made, including a careful palpation of the whole course of the colon.

When there is a history of recurrent malaria, similar enquiries are necessary as to the frequency of the illnesses, their last date, and the duration of the attacks. The examiner must pay particular attention to the spleen and liver, the palate should be examined to see whether it is anæmic, the pulse and blood-pressure should be taken, and the general appearance of the proposer described. The rest of the examination should be conducted with great care, especially as regards the heart sounds and the lungs. Any evidence of phthisis, even if quite latent, is of more than usual importance when the proposer has had malaria.

Cases of enlarged spleen, without anæmia, are sometimes allowed to return to the place where they had malaria on payment of a full extra premium for climate. Cases with anæmia, or showing any signs of exhaustion, whether the spleen is enlarged or not, are generally considered bad risks. If they remain in England, the premium should only be slightly modified in their favour if at all, and they should not be insured if they are returning to the place where their constitution suffered.

Cases that have suffered from heat apoplexy or sunstroke should never return to the tropics. According to their symptoms, and their after-history, some of them are uninsurable without an extra premium even in England. Giddiness, fainting attacks, mental symptoms, epilepsy, are examples of conditions which should make hesitation necessary in advising acceptance.

Cases that have been in the Army may have been sent to India, Mesopotamia, Egypt, Palestine, South Africa, East or West Africa, and may have acquired some of the infections that exist in those countries.

The general rules that have been given are sufficient to indicate the manner in which the risk should be handled. Cases that have had sprue should only be accepted when they have completely recovered, and must never return to a country or district where the disease is found.

CHAPTER XXXIV

THE METHOD OF COMPENSATING FOR EXTRA RISK

THE examiner is usually asked whether he considers the case to be one which is insurable at average rates, having regard to the personal and family history as well as the results of his examination. The usual answer to this question is "yes."

But it is of importance to note that the occasional examiner often unconsciously, but sometimes consciously, makes such a recommendation on account of local interest or prejudice. When the examiner is seeing the proposer constantly, either as a patient or as a friend, and the proposer is apparently always in good health, there is a possibility of his being led to believe that the risk is an average one. But an independent or unbiased observer, or the chief medical officer of an insurance company, would have no hesitation, with all the facts before him, in saying that this was a case for an extra premium, or would desire to limit the insurance to an endowment policy payable at the end of a term shorter than that proposed.

For instance, a man of fifty-two, living in the country, where he indulged in week-end field sports, and was apparently in good health, was known to the head office to be engaged in an extremely strenuous business, involving a long train journey to and from his home, on five or six days a week. He was accepted by a country examiner, who disregarded his family history, which showed apoplexy at sixty-five, because he "appeared to be so well when he met him" on the golf links on Sunday afternoon.

But the head office found from private sources that he had been rejected by other insurance companies recently, that he had a trace of albumin on one occasion, that he had on several occasions had a high blood-pressure, 170 or more, and that his family history must be taken into account. His family history showed that his father died of a stroke at age sixty-five, and that a brother died of Bright's disease. In this case an examination was insisted upon by the head-office examiner, during the proposer's strenuous week in London. Only a term risk for one year was allowed, on special terms, and the proposer was warned that he must depute some of his work or diminish the energy that he was putting into his daily task. This led to a correspondence with the proposer's own medical attendant, who, like the country examiner, knew nothing of his business surroundings, and at the end of a year an endowment proposal for ten years was accepted at ordinary rates, also by examination at the head office. During the year the proposer had greatly relaxed his strenuous business overstrain. There was a good result of his new examination, and every doubt which had led to his previous rejection or postponement was dispelled, but the ten years' endowment was insisted upon. The local examiner, who had not taken his blood-pressure, was misled quite honestly by his apparently good health, but the office was in possession of better information.

It is not possible in a book of this kind to give the actual additions that are required for various defects in health. There is so much individuality among proposers that, although two proposers may apparently present a similar condition, yet the differences in the lives they lead, and in their family history, may render them quite dissimilar risks for insurance.

The manner in which an examiner should regard the extra premium should not be by forming any estimate in his mind as to how long the proposer will live. This

must be an entire fallacy, as of every thousand proposers at any insuring age, there will be a certain number of deaths in the first year from causes which lie quite outside any possible estimate. Some will die of accident, others of disease which may be considered accidental or intercurrent.

It is better for the examiner to endeavour to form an estimate of the mortality that is to be expected, at various ages, in proposers of the class with which he is dealing. Most authorities are agreed, for instance, that valvular heart disease greatly increases the chance of death. This will vary with the nature of the valvular disease. Assuming that the diagnosis is correct and that the muscle shows no sign of degeneration or dilatation, that the compensation for the lesion has not involved any enlargement of the heart, there is still a considerable extra risk in offering a life insurance policy.

Although it has been alleged that a mitral regurgitation with apparently normal heart muscle, and an occupation that involves no excessive strain, may be regarded as an average risk, yet I do not know of any insurance company that will accept such lives at ordinary rates for a whole-life policy. The offices know that the ordinary strains of life that cause degeneration of the cardio-vascular system, or the extraordinary strains which arise from influenza and pneumonia, and so on, will mean a greater number of deaths among those who have a mitral systolic bruit. Such lives are nearly always dealt with by the imposition of an extra premium, for a contract terminating somewhere about the beginning of the sixth decade. With other forms of heart disease a still higher extra is required. In each case the extra will depend upon the duration of the policy proposed.

In some extra risks the mortality may be supposed to decrease with advancing age. In such cases the best method of providing for the extra mortality to be expected immediately is to put a large initial debt on the policy,

so that the proposer (or his executors) gets only a proportion of the amount assured, a percentage of what they have paid for. It has been said already that the typical case for this is the extra risk arising from a family history of phthisis in young proposers. It is also true of certain "tropical" risks—as, for instance, on the lives of young officers in India—and it may also be considered to be true of some of the effects of war—as, for instance, the after-effects of gas on the lungs. The longer the period that has elapsed, the greater the probability of survival of the proposer who appears to be in good health.

Another method which is largely adopted with a view of preventing an excessive number of claims in the later years of insurance is to insist upon an endowment policy being taken up for a shorter period than that proposed. This is particularly applicable to the case of heart disease or threatened arterio-sclerosis. As a rule, an extra premium is required as well.

For what may be called grave hazards, such as existing albuminuria, or high blood-pressure in the younger class of proposers, or intermittent glycosuria, some offices will give an insurance for one year, or even longer, at a multiple of the ordinary term rate.

A "term risk," as it is called, is at an end if the proposer outlives the term. A term risk does not always satisfy the needs of the proposer, and always means a considerable sum at stake for the office, with the smallest possible premium.

Occasionally a term risk is selected by the proposer. It enables him to obtain the largest amount of cover for the smallest premium, and he gets nothing, should he survive the term proposed. In one case a rich man, aged seventy, proposed for a very large amount for one year, and being a good life, was accepted at ordinary rates for his age. At the end of this term another insurance was proposed with a fresh medical examination, also for one year only. This process went on until at the age of

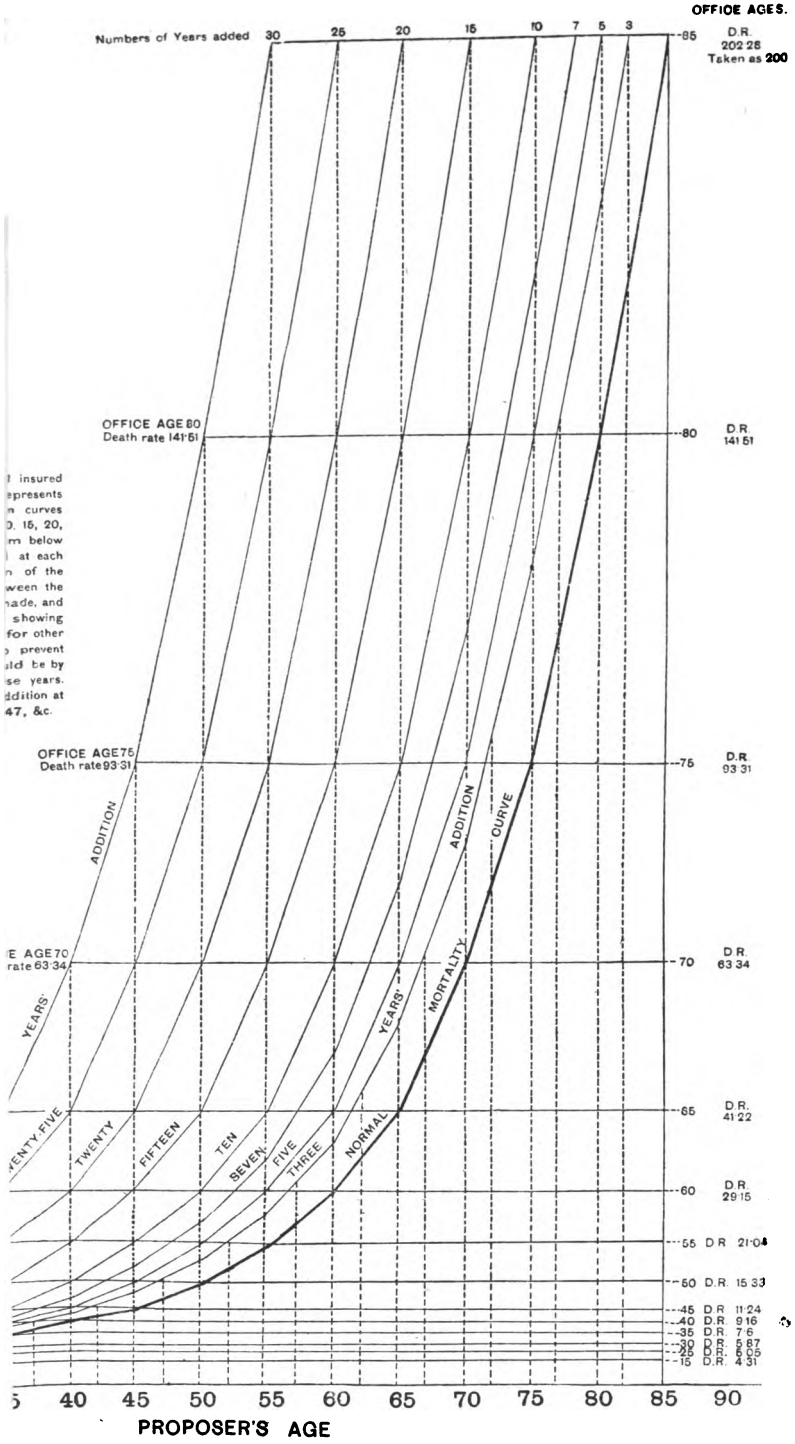
seventy-six, when he made another proposal for a term insurance for one year, he was found to have albumin, a blood-pressure of 200, an intermittent and irregular pulse, and was quite uninsurable. A somewhat heated correspondence ensued as the proposer did not in the least like the facts of his case, and the agent said that the office was "turning down an old client." The office, however, had to maintain its position.

The "term insurance" is also often used for what are called voyage policies, where the proposer is sent abroad, perhaps to disturbed parts of the world, or to the tropics for a period of months, or even more than a year. In these cases the proposal is often effected by the firm sending out the proposer to cover the risk of having to send out another member of their staff. In other cases the proposer himself, knowing that he is going to incur unusual risks in a short period, desires to have an additional cover to provide for his dependents.

In either case the office must have the fullest information as to the risk which is going to be incurred. So far as the medical examiner is concerned, he must have a certain knowledge of the condition under which the journey is going to be undertaken, and the greatest care is necessary in the medical examination to approve the proposer undertaking the risks of the journey. Occasionally extra premiums are required for the risk of the journey, and occasionally also on account of the build or age of the proposer. In some cases the office will not undertake the insurance.

"Term insurances" are disliked by some actuaries and boards of directory. They form rather a special class of business. The offices underwriting these risks are usually prepared to consider proposals from other offices as reassurances.

It has already been stated that there are several ways in which an office attempts to obtain some compensation when there is an extra risk—that is to say, when the



MORTALITY CURVES, WITH ADDITIONS OF YEARS

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proposer may be assumed to have an under-average prospect of longevity, or an increased possibility of dying.

The usual method is by an addition of years to the age of the proposer. It is necessary for us to consider what effect this has upon the expected mortality.

The author has endeavoured to express by a graphic method what would be the mortality with varying periods of years added to the age. The accompanying table from the Assurance Medical Society's Transactions shows very fairly that an addition, for instance, of five years at age forty will imply that the mortality for that age will be increased by 2·08 years, but that when the proposer has reached the age of sixty, or is sixty at his entry, the same addition will provide for an extra mortality of 12·07 years. In other words, an addition of years to the age always provides for an increasing mortality. Such a table showing the effect of an advance of years will afford a means of suggesting an addition of years.

If an examiner has sufficient experience, which includes not only his clinical knowledge of men, but also of their occupations, their temptations, and their family and personal history, as all these factors have to be taken into consideration, he may be able to form some sort of an idea of the rate at which proposers of a similar class will die at a certain age.

There is one fallacy which has been very commonly practised, which assumes that a limited premium policy will in some way compensate for an extra risk. For instance, it is suggested that, if there be a defect which will tend to increase the class of mortality of a proposer, if the premiums are all paid in ten or fifteen or twenty years, the proposal may be accepted on easier terms as regards the extra premium, than if the premiums were to be paid during the whole course of the expectation. It must be remembered that, although a proposer pays a rather larger amount per annum, because the premiums

are to be paid up in a limited term, yet, at the end of the payments, the accumulated premiums can only continue to increase by compound interest, and that no further additions of capital sums are possible under the terms of the contract. Assuming that there is an extra risk in the proposal, it is clear that an extra premium must be much larger for a limited payment policy, the extra being only payable for the term of years selected, than for a policy for which premiums are paid throughout the whole course of the insurance. The only effect of a limited payment policy is to diminish slightly the loss that may occur in the early years of insurance. When the payment of the premium has ceased, the extra risk goes on, and a very much higher addition is required when the extra premium is only payable for a limited number of years. This method is often used even by actuaries as a blind to their medical officers.

One great insurance company has, during the last year or two, applied all its extra premiums by way of a decreasing debt. This is not scientifically accurate, but it enables the proposers to claim that they have been taken at the tabular rate of the company. Some of the debts that have been imposed by this company are very large, amounting to 80 or 85 per cent. or even more. They run off gradually during the expectation period of the life, or during the term of insurance that may be granted. They have the advantage of tending to produce that desire for longevity which may come from the certainty that the longer the proposer lives the more his dependents will derive from his insurance. It is, of course, possible for an actuary to devise a decreasing debt which will be approximately equivalent to an increasing extra premium, as estimated by an addition of years to the age. The chief advantage of this method seems to me to be the introduction of the force which tends to keep proposers alive.

There are some risks on which it is impossible to assess

the mortality rate—as, for instance, that of alcoholic excess. Though many individuals may, for other reasons, be uninsurable throughout a very long life, yet there is no sort of average derived either from clinical experience or office experience that will enable a chief medical officer to advise otherwise than declension or postponement *sine die* of alcoholic lives.

As a matter of actual practice, additions are made by chief medical officers, from their knowledge of the practice of other companies, and of the particular company to which advice is at the moment being given, on lines that are apparently almost entirely empirical, and certainly competitive, subject to the nature of the risk.

The medical officer of an insurance company should always be prepared to state his reasons for his decision.

CHAPTER XXXV

CONCLUSION

MEDICAL practitioners who have followed the author so far in his attempt to demonstrate the chief points on which the head-office officials require information will gather that the definition of an average risk is practically an impossibility. We may, of course, say that an average risk is one which presents positive evidence in the family and personal history, examination, occupation, and habits, of being a life that has a normal expectation period. We may also have gathered that insurance companies regard family history, personal history, the examination, occupation, and habits, as being all of capital significance, almost equally.

Most offices only ask questions as to whether the proposer may be accepted at ordinary rates, and, if not, that the examiner will supply reasons. It does not follow that the life will be accepted at an increased premium, at ordinary rates, or rejected, because of these reasons. Judging by the many variations between the forms in use, a difficulty seems to exist in the minds of actuaries and managers as to how these questions which give the sum of the medical examiner's observations should be worded. Other offices wish to know whether the life may be considered a safe one for several years ahead. Other offices, again, wish to know what addition of years the medical examiner would recommend.

How these questions are to be answered as a result of twenty minutes' examination, except in the cases of lives to which no exception can be taken, it is difficult to

say. Some offices put before the examiner the proposal and the friends' references before he examines. Even then the ordinary medical practitioner has not the knowledge of insurance which is necessary to assess the risk. In the author's opinion no medical examiner should be asked anything more than whether he considers the life to be insurable at ordinary rates, and, if not, to give his reasons. In the head office, as has been pointed out, they often have additional information which may act favourably or unfavourably on the proposal before them.

There is a great broadening of view taking place in regard to assessing of lives for insurance. It has been expressed many years ago by Dr. Pye-Smith as "take all you can and reject all you must." If the volume of business coming to an insurance company is very great, the loss which will fall upon the mass of insurers by the inclusion of some doubtful hazards becomes small. Unfortunately all the people do not insure in one office. Selection, therefore, becomes an essential duty for those responsible for the conduct of insurance companies. Medical selection is only a part of selection generally, but a very important part in guiding the final underwriting of the risk.

The author has dealt with various methods of assessing lives, and no rules can be applied which will cover any considerable group of individual cases. The author has known a distinguished head-office medical adviser lay down certain rules for the assessment of certain risks. The very next day after he had spoken at the Assurance Medical Society his office offered a reassurance to another company, endorsed by the same gentleman, of the very same class of risk at rates which were entirely different. This, at first sight, would appear to be a hopeless contradiction, but the risk was not of the same kind, owing to the table selected, the large amount at stake, the careful surroundings and the exemplary habits of the assured.

A doctor was proposed for insurance at a considerable office, where he had the advantage of being known to several of the chief officials of the company. The sum was a fairly considerable one, and the author thought it would be as well, in spite of the very favourable report supplied by a colleague in the town where he practised, to obtain information from the senior physician of the local infirmary, whom the proposer had consulted for being "run down" a year or two previously. It was as well that he did so, for the proposer had had a blood-pressure of 220 millimetres and a trace of albumin. The examiner had not thought it advisable to take the blood-pressure, and stated that the urine was normal. The proposer died one year after the proposed insurance, which had been declined in face of the strongest possible pressure.

Conscience and character are essential qualifications in dealing successfully with the medical aspects of life insurance. The most extensive academic knowledge, the longest and widest experience of clinical work, are useless, if conscience and character are considered to be negligible possessions.

Conscience and character alone are, however, useless possessions, unless in addition to professional attainments of the highest type there is also a wide acquaintance with human nature, including its frailties.

It is unnecessary and indeed inadvisable for any medical examiner to discuss, or to be influenced by, competition between insurance companies. Competition has a good and bad side in insurance, as in everything else. Nor should the friendship of an agent or self-interest of the doctor ever permit him to conceal or distort or to gloze over defects. Unfortunately such things do occur even among practitioners of the highest class. Unfortunately, also, offices are not above suspicion in dealing with various classes of risks. There may be a director

or a friend of a director, or a peculiar way of handling loan business which will eventually lead to such a feeling among first-class companies that the business which may be offered for reassurance by such companies requires the most careful scrutiny. It is not only by reason of financial superiority that an insurance company's business is here called first-class.

One old and honoured member of the medical profession once said to the author that he should beware how he made friends with insurance companies' officials. If that were true twenty years ago, it is certainly true now, and though fortunately placed himself, the author can only repeat the advice given him, and suggest to those who take up insurance work the necessity of a fearless adherence to the truth.

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PRINTED IN GREAT BRITAIN BY
BILLING AND SONS, LTD., GUILDFORD AND ESHER