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LIFE ASSURANCE AND THE MEDICAL PROFESSION.

LADIES AND GENTLEMEN, Allow me, in the first place, to thank you very sincerely for the honour which you have done me in electing me President of the Ulster Medical Society for this Session. When I think of the eminent men who have preceded me in the presidential chair, and when I remember that my immediate predecessor is the distinguished surgeon who has shed new lustre on the office. When I look around this hall in which we meet and remember that we owe it to the generosity and public spirit of one of our past presidents whom our whole medical profession has called to occupy the high position of President of the British Medical Association, and who did so much lately to make the meeting of that Association in our city a memorable one; no wonder that I felt diffident about accepting the honour which you have so kindly offered me. In truth, I do not think I should have had courage to accept the office had I not known the loyalty which you always show to your president, the indulgence which you are always ready to extend to anyone who honestly endeavours to the best of his ability to represent you, and the friendly spirit which one never looks for in vain among the members of this Society. I have been a member of the Society for twenty years, and though I have not taken a very active part in its proceedings, I have attended the meetings and I know the advantage it is to the medical man, and especially the young medical man, to be a member of it. It is my hope long to remain a member, and to see the Society increase and grow stronger in the future than it has even done in its vigorous past.

Ladies and Gentlemen, in choosing a subject on which to address you this evening, I have experienced considerable difficulty. Many subjects presented themselves to my mind, but on reflection I found that they had all been discussed before, and to use the words of the wise man of old, "There is nothing new under the sun." I propose, therefore, to deal with "*Life Assurance and the Medical Profession.*"

The subject is one of considerable interest to an audience such as I am addressing this evening; first, because of the importance of the duties of medical referee, and secondly, because life assurance is often the only way in which the young medical practitioner can make a provision for his family in case of early death.

I should like to put forward what I have to say on the second head first, and in view of the enormous importance in our social system of life assurance, I may well be pardoned if I preface the more technical and professional part of my paper with some remarks on the subject generally, which I am sure will not be misunderstood.

The growing importance attached to life assurance by the general public is shown by the fact that during the past year the sum of £40,000,000 was paid in life assurance premiums as compared with £17,595,000 in the corresponding period 20 years ago. To this increase the working classes contributed largely. Twenty years ago the annual premium income of industrial companies was £4,000,000, while now it stands at £13,000,000, the increase amounting to 225%. This shows the growing desire of the working classes to make provision for the future.

But to no class should the advantages offered by life assurance appeal with greater force than to the members of our own profession, and more especially in the earlier years of their medical career. The majority of professional men have a number of "lean years" to pass through, and more often than not the medical man passes through them as a married man with immediate and usually increasing responsibility. The high proportion of expenses to income often renders it difficult or impossible for us to make provision against early death without availing ourselves of life assurance. By this means it is possible for a young man, dependent entirely on his professional income, to make immediate provision for his family by a comparatively small annual outlay. Life assurance should not be regarded as an expense but as an accumulation. A well known medical practitioner who, a few years ago, was suddenly seized with a severe illness, afterwards told me that the peace of mind due to his having taken out an extra policy for £1,000 on his life a short time before his illness, decidedly helped his recovery.

Selection of an Office. – In availing himself, however, of the advantages of life assurance, much greater care should be taken in the selection of an

office than is generally the case. There is no investment which even keen business men make with so little discretion as life assurance. They seem to think that life offices are all much of a muchness. The selection should depend mainly on the age of the applicant and the object for which assurance is sought.

One office may make a strong point of a large amount of cover at the lowest possible cost. Another gives special investment facilities. The premiums and bonus additions of one office may be specially favourable to young lives and those of another to older lives according to the mortality tables employed. Guaranteed results may be the feature of one office, and specially low non-profit rates the feature of another. Some offices give special attention to second-rate or invalid lives, while others issue policies with the privilege of borrowing at a moderate rate of interest for the building or purchase of house property. Owing to the different rates of premium charged, and the various methods of allotting the bonus additions, it is difficult to compare different offices. The best comparison I have seen is that made by "The Statist." It assumes the taking out of a policy in each of the British offices for such an amount as could be secured by an annual premium of £10, and estimates what the value of each policy would amount to at the termination of the expectation of life, provided that the bonus additions are continued at the same rate as declared at the last valuation in each office. For example, suppose a man, aged 30 years, (his expectation of life being 35 years), pays a premium of £10 yearly into each of the offices. At the age of 65 when his life is supposed to drop, the amounts paid by the various offices differ very widely. The average amount paid by the ten offices yielding the highest result is £713, while that of the ten offices giving the lowest result is £538.

If a man aged 30 years takes out an endowment policy payable at 65 years, the average amount of the ten offices giving the highest result is £585, while that of the ten offices giving the lowest result is £440. Had I quoted the results of the individual offices giving the highest and lowest results, the contrast would have been greater still. I have given the results of the ten highest and lowest as showing what one might reasonably expect by entering a first-rate office.

What I propose now to say concerning the subject of life assurance in its relation to the medical referee must have interest chiefly for the general practitioner rather than for the specialist. My professional brethren in the specialist's domain will acquit me of passing any slight upon their unique and important function. I have too often observed the services which they render, and which no other than they can render, in the saving and prolonging of human life and bodily faculties, as well as the support and assistance which they lend to their brethren, the general practitioners, to be in any danger of undervaluing their importance and their work. But the post of medical referee is one for which, I think, the general practitioner has special qualifications.

Life assurance is based largely on a question of prognosis the probable duration of human life, not only in its state of health but when this condition has been modified by influences such as previous illnesses, hereditary predisposition, personal habits, occupation, &c.

The general practitioner has the advantage of treating disease throughout its entire course, and of observing the after effects of such disease on the health and constitution of his patients. He has also an intimate experience of human life conditions. The knowledge thus gained renders him specially suited for the duties of referee, which I now proceed to consider.

Medical Examination. – Medical examinations have now to be conducted with much greater care than formerly. The examination should, as a rule, be conducted by the medical referee of the company. The question sometimes arises – should the applicant's medical adviser be employed as referee? The answer should, I think, be in the negative. If employed at all, the applicant's medical adviser should be asked to furnish a private report. When possible, the medical referee should insist on the examination being carried out in his own consulting room, where he has every facility for carefully and quietly investigating the case. These conditions are not always obtainable when the referee is asked to examine either at the office of the applicant or at that of the insurance company.

I was for a time referee to a large insurance company whose local manager insisted on sending applicants to his own office for examination. The office was situated in a front room on the second floor of a building in one of the busiest thoroughfares of the city. The noise was so great that I could not distinguish either the respiratory or heart sounds. My only chance was to arrive before the applicant and observe his condition as regards breathlessness and the state of his pulse after climbing the stairs.

In a short time I thought it was wiser to sever my connection with this society. In the great majority of cases I have found insurance representatives most

particular in the selection of the candidates they put forward for examination, and, although I have had to differ with them occasionally as to the suitability of a particular case, it would in most cases have been impossible for the representative to know that the case was unsuitable.

The referee must grasp the principal features of a case quickly and express a decided opinion. If, having examined the case, he is unable to decide, how can the principal medical officer be expected to do so without an examination?

Each case should be investigated from the following points of view: –

(1) Personal Appearance.
(2) Family History.
(3) Personal History.
(4) Habits, Mode of Life and Environment.
(5) Present Condition of the Applicant.

1. **Personal Appearance**. – By a close inspection of the applicant the referee can frequently form a fairly accurate estimate of his value as a subject for life assurance.

2. **The Family History**. – The family history of the applicant is a point to which great importance has always been attached in selecting lives for assurance. This results from the belief that a man is liable to inherit the constitution of his forefathers, and to suffer from the diseases from which they suffered. In cases with hereditary predisposition to disease the age of the applicant may be an important consideration. For example, the tendency of phthisis to develop at a certain age, and a lessened liability to that affection as life advances; or, on the other hand, there is a greater liability of disease – such as cancer – to develop after a certain age has been reached. It was formerly held by many officers that if two deaths from phthisis had occurred in the applicant's family the life was unassurable. A better understanding of the nature and causation of phthisis had led to a considerable modification and broadening of the views originally held.

The present tendency of the more advanced offices is to try each case on its own merits, and this necessitates much greater discrimination on the part of the medical referee in the examination of applicants. It no longer follows that because there is a defect – even a serious one – in the family history of the applicant that the life is unassurable. This is a distinct advance, and removes what was formerly a hardship, if not an injustice. Many applicants can now avail themselves of life assurance on favourable terms who, no matter how suitable they may have been personally, would formerly have been rejected because of a defect in the family history.

I recently heard of an application having been made to a leading office by a client aged 32 years. The family history was as follows: – Father died of tuberculosis, aged 66 years; three brothers died of phthisis, aged 25 to 26 years; one brother and two sisters alive, aged 27 to 38. The proposal was accepted at ordinary rates, as the proposer had been away from home and removed from the environment of the disease before any of the cases of illness had occurred.

I do not put this forward as an expression of my own opinion on the case, but merely to show how the views held by some insurance companies have been modified.

Whatever views we may hold regarding heredity in phthisis, we must, I think, admit the transmission of a lower power of resistance to the Bacillus Tuberculosis. As most persons must be exposed at one time or another to the attacks of the bacillus, I think we cannot completely ignore family history in such cases. When the family history is such as would formerly have excluded the life from assurance, if the applicant is healthy, of average weight, with a well formed chest, appetite and digestion good, and if satisfied with his occupation, and that he leads an open air life, the medical referee may have little hesitation in recommending such a case for acceptance at special rates. The experience of life offices shows that a good physique, even with a hereditary tendency to phthisis, is less liable to contract this disease than one of poor physique whose family history is favourable, I am inclined to think that the importance of family history has been over-estimated in the past in connection with this disease. It is quite possible that a parent or brother or sister of an applicant may have contracted phthisis by infection under exceptional circumstances, there being no hereditary tendency to the disease in the family. Much as open air treatment is reported to have done for the cure of consumption, I believe that it is in the lines of prevention of the disease that this form of treatment will triumph. What has surprised me perhaps most of all in connection with examination of the chest, is how few persons, except singers, can take a deep breath.

As a rule it is quite easy to recognise a singer by his chest expansion. It would be interesting to know what is the death-rate from phthisis among singers. If children at school were taught breathing exercises I think it would materially help in the crusade against tuberculosis. It seems to me that the value of open air treatment is to a considerable

degree lost through inability to utilise the air. And here I should like to mention a new departure made last year by a British office which announced preferential terms for life or sickness assurance to proposers who had successfully undergone a particular course of physical culture. Indeed, it is difficult to fix a limit to this development of insurance activity in questions of public health.

For example, a great American office has recently been proposing to establish a sanatorium for the prevention and cure of tuberculosis amongst its policy holders and employees. Another office has established a policy holder's health bureau tor the purpose of giving free medical advice to its assured, with a view to the prevention, discovery and cure not of consumption merely, but of disease generally. Further, the society will through its local doctors, give any of its policy holders who request it, free medical examination every two years.

3. **Personal History**. – With regard to the applicant's personal history we must never forget that loss of weight is frequently one of the first symptoms of phthisis; also that an attack of pleurisy, although it may have appeared to be simple at the time, is often tubercular in origin. A history of certain diseases such as acute rheumatism, appendicitis, syphilis &c., is of the utmost importance, owing to the liability to recur or develop serious complications later in life.

4. **Habits, Mode of Life and Environment**. – These are points regarding which it is difficult to obtain accurate information from the applicant, and here the medical referee must be specially on his guard. The applicant's answers to questions on these points are often misleading, although this may be quite unintentional on his part. The referee will do well to be guided by his own judgment rather than by the applicant's statements. It is most important that lives deteriorated by intemperance or vice should be excluded. A man never admits that he is intemperate; he always mentions some other man who drinks twice as much as he does.

In the case of total abstainers, enquiries should always be made as to how long they have been so. Reformed drunkards are very risky lives. The experience of life offices show that, other things being equal, life abstainers are better for assurance than non-abstainers. The last annual report of a large office, having a temperance section as well as a general, gives the following figures: –

Temperance Section – Deaths expected, 457; actual deaths, 274. General Section – Deaths expected, 461; actual deaths, 407.

5. **Present Condition of Applicant**. – This is by far the most important point for consideration in selecting lives for assurance. It can only be ascertained by a careful physical examination of the applicant, and on it largely depends the final decision in the case.

I do not intend to enter into details regarding the examination generally; I shall refer briefly to some of the more important points that should be considered.

Chest Measurement. – This should be made at the nipple line, and the measurements after a full inspiration and a full expiration noted. It is not so much the actual size of the chest which is important as its capacity for expansion, as shown by the difference in the measurements already indicated.

Relation of Height to Weight. – There should be due proportion between height and weight. It is generally considered that persons of medium size are the best lives for assurance. A healthy man 5 feet 9 inches in height should weigh 11 stones 8 lbs. Most offices accept at ordinary rates a deviation of 15% to 20% above or below the normal standard. There is grave risk in accepting persons beyond these limits. When the weight is abnormally light or heavy, enquiry should be made as to whether the applicant is losing or gaining weight. Fat, if excessive, does not always mean that the body is well nourished; it frequently means a diseased condition. It is pretty generally recognised that obesity tends to shorten life. As a rough guide the girth of the abdomen at a level of the umbilicus should not exceed that at the nipple line during a full inspiration.

Opinion is divided as to whether an over-weight or under-weight is the more favourable for life assurance. I should prefer the thin, wiry, muscular man, if his weight, although light, varies little from year to year.

The Condition of the Heart. – The area of cardiac dulness and the exact position of the apex should be noted. It is pretty generally agreed that cases of aortic regurgitation are not assurable on any terms. Applicants suffering from mitral disease have been, I think, too universally rejected in the past. Take, for example, the case of a man who has a well marked mitral systolic murmur, compensation good, habits regular and temperate, and occupation and environment satisfactory. If it is traceable to an acute illness from which the proposer suffered several years earlier, and not to valvular degeneration, I think the life might be accepted at an extra premium. Such cases frequently make very good lives. Quite recently a well known man died in Belfast, aged seventy years, who was rejected for life assurance forty years earlier

on account of a valvular lesion. A number of my own patients who were rejected years ago for similar ailments are apparently stronger than many others who would be passed by any medical referee as first-class lives; indeed they are so healthy that I seldom have an opportunity of knowing how the heart is. Signs of degeneration of heart muscle necessitate rejection.

Pulse. – Over frequency of the pulse is often met with in examining cases for assurance. It may result from nervousness, or may indicate serious disease. An intermittent pulse, which is frequently caused by indigestion and by the excessive use of tea or tobacco, need not call for an increased rating; but an irregular pulse, where two or three slow beats are followed by several in rapid succession, is decidedly dangerous. Increased arterial tension, especially when accompanied by nocturnal polyuria or signs of arterial degeneration, calls for rejection.

Ear Disease. – The existence of suppurative middle-ear disease must be carefully considered in examining candidates for life assurance. Dr. Love, of Glasgow, states that "it is not necessary to reject all applicants who have or have had continued discharge from the middle ear. Discharge which has ceased even if it had lasted for years, should not be made the reason for rejecting a life. If the perforation in the tympanic membrane have healed, and if no discharge has occurred for some years, the life may be taken at ordinary rates. If the middle ear be open, much of the tympanic membrane having disappeared, the life should be taken only at an extra. . . .

"It is better not to accept a case of uncured chronic middle-ear discharge at all. If acceptance be insisted on, the extra must be a high one. If there be mastoid tenderness, or a history of mastoid pain, the life should be absolutely rejected. If the discharge cease as a result of treatment, and continue absent for a year, mastoid complications, although still possible, may for purposes of insurance be excluded and the life taken at an extra. If the mastoid operation have been performed, the life may be taken at an extra, but in this case a report by the operator should be insisted upon."

Condition of the Urine. It is most important that a careful examination of the urine should be made in all cases presenting themselves for assurance. The urine should be passed in presence of the medical referee. It not uncommonly happens that the applicant, either through nervousness or having voided urine immediately before presenting himself for examination, is unable to do so. The referee should insist on the applicant returning later, and should not accept specimens forwarded. It is not sufficient to state "urine normal" or "urine healthy," but a report should be made of the reaction, specific gravity, and the presence or absence of albumen and sugar. The reaction is tested by litmus paper in the ordinary way. The specific gravity should be carefully noted. One examination often gives us but a poor estimate of the probable condition of the urine; for example, a low specific gravity may be caused by nervousness resulting from the examination, or it may be a permanent condition due to grave renal disease. If a low specific gravity is accompanied by increased arterial tension, a postponement should be made whether albumen is present or not.

When the quantity of urine is too small to obtain the specific gravity, it may be diluted with an equal quantity of water, and the last two figures of the specific gravity thus obtained doubled.

The detection of albumen or sugar in the urine is, perhaps, responsible for more cases of postponement or rejection than any other cause. This is probably accounted for by the fact that either of these substances maybe present in the urine for a considerable period without giving rise to symptoms sufficient to attract attention. On a discovery of albumen our first duty is to ascertain its source. The albumen may result from a catarrhal condition of the bladder or urinary passages. The urine is then cloudy and the deposit contains numerous epithelial cells. Our recommendation in these cases – either postponement for treatment or acceptance at ordinary or special rates – must depend on the nature of the local disorder.

Another form of albuminaria which has been variously termed "Physiological," "Intermittent," "Haematogenous," "Postural," &c., is very interesting from an insurance point of view, inasmuch as recent investigation has shown that this condition is much less serious than was formerly supposed. Although the albumen comes from the kidney, its presence in the urine is not due to a diseased condition of those organs but to an altered state of the blood. The microscope reveals no casts or renal cells. This condition is not uncommonly met with in young persons who are in good health, in whom it was accidentally discovered on examination for life assurance or for one of the public services. A routine examination of the urine of boys attending public schools frequently reveals the presence of this form of albuminaria. The blood of persons suffering from this haematogenous albuminaria coagulates more slowly than normal. The administration by the mouth of calcium lactate which increases the coagulability of

the blood is followed by a disappearance of the albumen. If the calcium salt be given in cases of albuminaria due to renal disease, though the coagulability of the blood is thereby increased, the albumen remains.

The quantity of albumen passed varies considerably at different periods of the day, being often completely absent in the morning. This variation is due to alteration in the arterial pressure. Lower the pressure by rest, and the albumen diminishes or ceases altogether. If we prescribe the calcium salt without ordering rest, the albumen ceases equally, showing that it is the blood state which is the true cause. Emotional excitement and over-exertion increase the amount of albumen. I have at present under my care two cases of this interesting form of albuminaria occurring in strong, healthy young men. In both cases the urine is free from albumen in the morning; in one case it is brought on by exercise, and in the other by nervous excitement. The blood state underlying this form of albuminaria seems to have no important bearing on the prospects of longevity. A small additional premium should cover any extra risk.

The views expressed by Sir A. E. Wright and Dr. Ross are interesting in this connection. "We venture to suggest that it will no longer be justifiable to take, in connection with examination for insurance or for entry into the public services, the serious view of physiological albuminaria which has hitherto been taken by most clinicians. When it is found that a patient possesses a normal excretory quotient, and that his albumen can be abolished by diminishing the hypostatic pressure on the renal capillaries, and by increasing the coagulability of the blood, there is, we submit, every reason to conclude that the kidney is free from organic disease, and that the life is no more endangered than it would be if the patient were the subject of urticaria."

The third variety of albuminaria we have to consider is that resulting from renal disease. It is much less favourable from an assurance point of view than either of those already considered. Unlike the haematogenous form the administration of calcium lactate, though it may diminish the amount of albumen, does not cause its disappearance. Casts and cells from the renal tubes are present in the urinary sediment, and signs of disturbance of the cardio-vascular system and of the health generally are often present. We can only recommend the rejection of an applicant suffering from this form of albuminaria.

Sugar. – When the urine contains a very small amount of sugar, it is often difficult to arrive at a decision. We must not accept a low specific gravity as indicating an absence of sugar. Each sample of urine should be specially tested for sugar. In a case I recently examined for assurance the first specimen of urine had a specific gravity of 1025, and gave a slight reduction with Fehling's test. To make sure the reduction was due to sugar I applied the fermentation test, which showed the presence of 2% of sugar. A second specimen, examined a week later, gave a specific gravity of only 1005, with no immediate reduction with Fehling solution, but several hours later a distinct orange precipitate was found at the bottom of the test tube. A later specimen had a specific gravity of 1030. There was distinct reduction with Fehling's test, and fermentation showed the presence of a large amount of sugar.

When sugar is present in small quantity a re-examination of the urine should be made on several subsequent occasions; if no sugar be present it is generally considered that the applicant may be accepted at ordinary rates, if he is not too young, and did not change his dietary during the time over which the urine had been examined. It is very risky to accept applicants with persistent glycosuria. Cases of diabetes must be rejected.

Medical Report. – Having completed his examination, the medical referee, in addition to the questions already answered relating to personal and family history, has to answer a number of questions as to the physical condition of the applicant. He is finally asked to state his opinion of the life under consideration – if it should be accepted at ordinary rates or at an extra premium. If an extra premium is recommended, the referee is asked what amount he recommends. Now, I hold that the ordinary medical referee is not in a position to estimate the extra in such cases. He might as well be expected to furnish rates for ordinary whole life or endowment assurance as to fix rates for second class lives. When the occasional examiner recommends an extra rating of say seven years, he can have very little idea of the relation this bears to the extra risk in the case. To my mind this is a question for the combined judgment of the actuary and the principal medical officer of the society. Many of the points arising in the course of an examination involve a knowledge of actuarial work which the occasional examiner does not possess. It would be better if the office asked the examiner if the applicant was likely to prove a good average life, and if not, was the life likely to be slightly, considerably, or greatly under average; then the case could be considered without prejudice by the principal medical

officer and actuary. But when the examiner has answered the question which has just been suggested, his task, I conceive, is finished.