EVIDENCE AND ITS USES IN MEDICINE AND LAW

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The title chosen for this paper may suggest that there is some difference between the use made of evidence by medical practitioners and the use made of evidence by legal practitioners. It certainly requires me to say something about the use of evidence in the practice of medicine and this I am ill-qualified to do. But on this aspect of the paper at any rate, I hope that the medical members of the Society will, during the discussion, correct my erroneous impressions.

Before attempting to explain what it is that I shall endeavour to talk about, I want to make it clear that there are certain matters that might be thought to fall within the scope of the paper which I do not intend to discuss. I shall not discuss the rules relating to the admissibility of evidence in legal proceedings, although I shall make some reference to them. Nor am I concerned with the kind of difficulties which medical practitioners or other expert witnesses encounter when called upon to give evidence in Court. This has been the subject of or discussed in other papers presented to this Society: see *Proceedings of the Medico-Legal Society of Victoria,* Vol. V, p. 252. It may be however that the lawyer's approach to the question of evidence will serve to throw some light on the source of those difficulties.

What I shall attempt to do is to discuss the use that is made of evidence by Medicine and the Law in quite general terms. That is to say, what do each of our professions mean by evidence, how do we obtain it and how do we use it once we have got it? Do we both mean the same thing when we speak of evidence, and do we use it in the same way? If either of those latter questions is answered in the negative, what differences are there?

I do not think that there is any basic difference between what each of our professions means by the term "evidence". It is after all an English word of Latin origin though, like so many words, it has a number of meanings and again, like so many words, it is often used loosely.

I shall start by indicating what I understand a lawyer to mean by the word "evidence". It is something which tends to prove or disprove a conclusion. In other words, it is a term which implies a relationship. As one distinguished legal writer has put it: "evidence means in general any fact or statement of fact regarded as tending, when presented to the mind, to produce a persuasion concerning the existence of some other fact—a persuasion either affirmative or disaffirmative of its existence." [1]

This seems an acceptable enough definition for general purposes, but it needs perhaps some qualification because a single fact on its own can seldom, if ever, tend to produce a persuasion concerning the existence of some other fact. There must always be other facts against which or in the context of which the single fact tends to produce the persuasion as to the existence of some other fact, or as to the validity of a conclusion. This is obvious enough. One cannot collect facts in a vacuum, so to speak, but I think that it is important to remember this qualification upon the definition of evidence, for it not infrequently happens that we make errors in the background facts which we assume—the context in which we view the single fact—and such errors can as readily lead to a false conclusion as to the effect of the single fact as can a false appreciation of the effect of the single fact in producing a persuasion concerning the existence of some other fact.

Of course, we always assume the existence of a number of facts in the context of which we evaluate evidentiary facts. Many of those assumptions are dictated by the general level of human knowledge. So if we had lived in ancient times, we might have assumed that the earth was flat. Other assumptions are dictated by the limitations of our own individual knowledge and may be just as erroneous. Still others may perhaps be dictated by what are more correctly described as individual prejudices. But the point is that an error in any of these facts may lead us to a false conclusion.

Now I have started with this examination of what is meant by the term evidence because I think it is necessary to bear in mind what the process of deductive reasoning from established facts entails. I approach it of course as a lawyer. When it comes to litigation involving questions of fact as opposed to questions of law, the party on whom rests the burden of establishing the ultimate fact or conclusion of fact must establish facts (best called

[1] Wills on *Evidence*, 1894, p. 1.

primary facts) which tend to produce a persuasion concerning the existence of the ultimate fact.

This process may be all very well in litigation. There is indeed I think a deep-seated belief that a person should not be held liable whether civilly or criminally unless the facts upon which his liability depends are capable of being established in this way. I do not mean that there is a deep-seated belief except amongst lawyers in the merits of the rules relating to the admissibility of evidence in curial proceedings—and, as I have said, I am not concerned to discuss those rules—but there is, I think, a belief that liability should only depend upon a conclusion which can be demonstrated by a deductive process from given or established facts. But although the process may be all very well in litigation, it will simply not do for the everyday matters of life. We must constantly act—and we do constantly act—upon what we say we "know" but what we often should say we "believe". Lawyers, no less than others, do this and it is as well that it is so or life would almost come to a standstill. When a lawyer comes to advise a client, however, he must often of necessity be more cautious in acting upon what his client "knows" or "believes". Of course, the greater part of all legal work is done outside the Courts and in such work, depending on the gravity or significance of the particular fact, the lawyer can and often does act upon what his client "knows" or "believes". But his training will put him on guard against assuming too much and at the back of his mind there is always the thought that some fact may have to be established in a Court or, if this is going too far, there is at the back of his mind at least the thought that he should not, without adequate warning, advise a client to act upon facts which do not sufficiently tend to produce a persuasion as to the existence of the ultimate fact.

There is one more thing that I should say at this point about the lawyer's approach to evidence. It is this: The law of evidence is not exclusively concerned with rules for the admissibility of particular facts or even with the mode by which particular facts must be proved, though these are the outward manifestations of the law. But behind them lies a prescription of the relationship which must exist between one fact and another before the one can be used as "evidence" of the other. I think it is this fundamental prescription which colours to some extent a lawyer's mode of reasoning.

An American writer (who was evidently not a lawyer) once wrote the following: "If you think that you can think about a

thing, inextricably attached to something else, without thinking of the thing it is attached to, then you have a legal mind." It is perhaps unnecessary for me to say that I would not accept this as a definition of a legal mind. But I think that the training of a lawyer does make him continually conscious of the relationship of one fact to another, and does make him continually question whether a given fact tends to produce a conclusion as to the existence of some other fact.

What of the medical practitioner? It seems to me that he is just as concerned as the lawyer with the process of deductive reasoning, but that for a number of reasons he must often be compelled to act upon facts which would not suffice to satisfy a lawyer that his conclusion was correct.

There is an obvious similarity between a medical practitioner interviewing a patient and a solicitor interviewing a client. A patient goes to a medical practitioner because he feels unwell or because he has a more specific complaint. Before he can make a diagnosis or prescribe treatment the physician must ascertain from the patient as many facts as he can. A client who goes to a solicitor, complaining let us say, of a wrong committed by some third person must also put his solicitor in possession of the facts before the solicitor can do anything for him. Both solicitor and physician are therefore concerned to ascertain the facts on which they are to act, and in this lies the obvious similarity. But there are important differences.

The most striking difference appears to me to be the one which Sir Owen Dixon so penetratingly described in the twentieth George Addington Syme Oration which he delivered upon the invitation of the Royal Australasian College of Surgeons and to which he gave the title of "Jesting Pilate"—the title under which that and other papers and addresses have recently been published in the form of a book.[1] To express this difference I could not do better than quote from that oration. In it Sir Owen Dixon said this:

"The roots and foundations of law and medicine are far apart. But their techniques, like much else in the practical application of knowledge and in the conduct of human affairs, are governed by constant preoccupation with questions to which no answer is known.

"In each, action awaits upon judgment. But seldom does the law present that insistent demand for immediate action that

[1] Jesting Pilate (The Law Book Co. Ltd.), 1965

medicine must so often do. Law seldom calls for that intuitive judgment based on an anterior equipment of knowledge and of great experience which represents the highest example of the power of immediate inference to the particular by untraceable steps in inductive reasoning from the most general. The habit in mind that is formed by the constant need of making judgments of such a kind may not be a good qualification for an expert witness. Analytical methods of thinking and an appreciation of dialectical distinctions help the expert witness at least to make a good showing. But it may be of some comfort to the medical expert witness to compare the case of the soldier. When Field-Marshal Lord Kitchener was criticised on one occasion by the holder of a high office, once a lawyer, for his supposed failure as a Minister of War, a distinguished general who had served under Kitchener replied: 'Sir, he excelled in making correct decisions instantly in a crisis on which all might depend, not in arguing them out with lawyers who had taken to politics.'

The general who defended the field-marshal was of course right in treating the two methods as antithetical. But in whichever of the two you have been trained you will never suppress the desire to be better informed whenever you must make a decision for which you feel any heavy responsibility.

Although all diseases and complaints may not require immediate treatment and although prolonged investigations may be necessary in some cases before a diagnosis can be made or treatment prescribed, by and large I should have thought it was true to say that a medical practitioner has to make up his mind on the spot, diagnose the complaint and prescribe treatment. A solicitor on the other hand will more often be able to consider the facts at what is still euphemistically called leisure and proceed more slowly to the treatment which he prescribes. Of course there will be many cases in which a physician can proceed with some deliberation to his diagnosis and treatment and there will be some in which the solicitor must act—and act irretrievably, so to speak—with a great speed. But the distinction remains true, I think, for the majority of cases and it illustrates or causes a fundamentally different approach by our two professions to questions of evidence. To put it dramatically, the physician must act or the patient may die. The law, on the other hand, proceeds upon the assumption that given sufficient time all the relevant facts can be ascertained, and upon those facts the legal relationship of the parties can be worked out. This means that the physician must more often than the

lawyer work upon an incomplete knowledge of the facts. He must, therefore, far more often than a lawyer, act upon what he "knows" to be the case although he has no evidence in the strict sense to prove to him that what he "knows" is in fact true. His knowledge comes from his experience. Experience must therefore be of paramount importance to a physician. This experience may be acquired by seeing cases for himself, by reading about the cases of others, or perhaps more importantly, by discussing cases with others. If this is so, it probably explains or justifies the habits of members of the medical profession of attending conventions or congresses or whatever they may be called, and of travelling about the world to discuss their work with other practitioners working in the same field. No one would deny that experience is necessary in the practice of the law, but it is experience of a somewhat different kind from that to which I refer in the case of medical practitioners. A person may be a very experienced and skilful legal practitioner without ever having attended a legal convention, but I imagine that few medical practitioners who aspire to the heights of their profession would be able to do so. Legal conventions may have their uses but they are uses of an essentially different character from the uses to which I imagine medical conventions are put. If this is so, it is, I think, because of the necessity on the part of the physician to gain experience upon which he can act when he cannot, in the nature of things, obtain the evidence that he would like to have.

In drawing this distinction it must not be overlooked of course that the lawyer often has to advise a client without a full knowledge of the facts. It may be that, for a variety of reasons, the facts cannot be fully ascertained at the stage when the lawyer is called upon to give advice. In matters involving litigation or contemplated litigation the facts may be partly or even largely within the exclusive knowledge of the other side. If the matter ultimately reaches the Court, the Court will of course be placed in possession of all the relevant facts—or such at any rate is the assumption—and will thus be enabled to pronounce the judgment which the law demands. It is often for the reason that the lawyer advising a client has to base that advice upon a limited knowledge of the facts that he cannot predict with certainty the outcome of litigation. His facilities for ascertaining the facts are far less than those of the Court, and it is upon the facts as ultimately established to the satisfaction of the Court that the legal rights of the parties must be determined. This consideration, quite as much as—or

more than—uncertainty as to what the law is, is the reason for doubts as to the outcome of litigation. But when a lawyer is called upon to advise a client and has only a limited knowledge of the facts upon which the client's rights ultimately depend, he is I think acting in a very different way from the way in which a medical practitioner who has less information than he would like to have about a patient's condition is called upon to act. The lawyer does not make an intuitive judgment based on experience: he cannot do so, for the facts upon which a client's rights depend are capable of infinite variation. What the lawyer says, in effect, is that if the facts are such and such, your rights are so and so. He cannot be expected to go further than that. But obviously enough, this kind of attitude could not be adopted by a physician.

Another difference in the attitude of our respective professions to the ascertainment of evidence seems to me to be dictated by the very subject matter with which each profession deals. The medical man deals with the human body; the lawyer with the relationships between individuals, using that word with a wide connotation, or with the relationship between an individual and some governmental authority. The fact that the medical man deals with the human body imposes a considerable limitation for, although in some cases exploratory surgery may be used as an aid to diagnosis, the medical practitioner cannot in general act like a motor mechanic and take the patient to pieces before making his diagnosis. The lawyer on the other hand can, or at any rate acts upon the assumption that he can take the relationships with which he is dealing to pieces and subject the pieces to a rigorous analysis. This is sometimes extremely difficult where the informato be analysed is derived solely or substantially from the observations of individuals, whether the individual is the client or some less interested observer. But where the information comes from documents—letters, accounts, bank statements, agreements and so on—the process is not only possible but essential.

Closely related to the limitations imposed upon a medical practitioner by the fact that he is concerned with the human body is the fact that the physician or surgeon will more often—or so it seems to me—have to rely upon a subjective account of the facts which he requires for his diagnosis. The solicitor can frequently check the account of the facts which he is given by reference to contemporaneous documents, statements of disinterested witnesses and so on. But at any rate, until comparatively recent times the

physician must have been limited in a great many cases to the patient's own account of his symptoms and no doubt that account was often highly colored. There is no doubt also that medical practitioners acquire great skill in penetrating these subjective accounts and arriving at a correct diagnosis in spite of them and here again, the experience of the physician must count for a great deal. But with the advance of science the physician has available to him a vast number of means of obtaining objective evidence of a patient's condition: such things as X-rays, blood tests, cardiograms and the like. Now, from a strictly evidentiary point of view, one would have thought that facts disclosed by such tests and examinations would be of inestimable value in that for the most part (though not, of course, always or entirely) they would be, so to speak, objectively ascertained and therefore more reliable than the patient's subjective account of his own symptoms. It is obvious that this is a field into which I am in no way qualified to enter but in the hope that it may provoke some discussion from the medical members of the Society, I want to refer to one or two consequences of the provision of these modern aids to diagnosis which have been brought to my attention.

I am indebted to Dr. T. H. Hurley for a reference to a paper by his uncle, Dr. Leslie Hurley, entitled "The Place of the Clinical History in Medicine" which was published in 1948 in the Centenary Volume of the *Royal Melbourne Hospital Clinical Reports* at p. 44. In that paper, as the title suggests, Dr. Leslie Hurley was chiefly concerned to emphasize the necessity for the careful and painstaking collection of the details of the clinical history of a patient as a prelude to diagnosis, in spite of the great advances in scientific aids to diagnosis. To quote one paragraph from that paper: "The importance and value of the history in diagnosis is very forcibly illustrated when one is presented with a patient from whom, for some reason or other, it is not possible to obtain a reliable account of the symptoms. Under these circumstances one feels that one is deprived of perhaps the most valuable and important part of the evidence necessary to make an accurate diagnosis or attempt to formulate a reasonably correct prognosis." Dr. Hurley was not directly concerned in that paper with the point to which I am directing attention, but a number of statements in it suggest that in his view the modern aids to diagnosis have tended to displace the taking of a clinical history as the basis for diagnosis. No doubt, it is natural that it should be so. Dr. Hurley attributes the tendency to the human failing of seeking

the answer to difficulties in some readily understood formula or sign. I would add for consideration that it might justifiably be thought (at any rate, by a layman) that from an evidentiary point of view the objectively ascertained fact was to be preferred to that obtained subjectively. No doubt however there are reasons why this is not always true. Those reasons are perhaps contained in Dr. Hurley's principal theme, which is that the teaching of Hippocrates remains true: it is the whole man that must be studied and the introduction of innumerable scientific aids to diagnosis with the inevitable specialization that they have brought in their train have tended to make the physician less careful or assiduous in the very difficult art of history taking.

This modern tendency to specialize leads me to mention another aspect of this diverse subject which may be of interest to medical members of the Society.

Again it is a field into which I cannot enter and I therefore content myself with posing the question. It is this. To what extent has the high degree of specialization in the practice of medicine today led to a subjective influence in the ascertaining of the facts about a patient? I refer to a subjective influence in the physician himself. In other words, to what extent does the specialist have to wrestle with a tendency on his own part to diagnose a disease or prescribe a treatment that falls within his own speciality? I do not know the answer to this question, but I shall look forward to hearing the answer in due course.

I recently read "Hall of Mirrors", by John Rowan Wilson,[2] what might be described as a medico-legal novel. It was written by a qualified medical practitioner and perhaps for that reason the lawyers in it were somewhat dull and dreary figures. It was concerned with medical politics in London. It had a legal aspect too because the story revolved around and described in detail an action for defamation by a famous consultant physician against the head of the surgical unit at one of the great teaching hospitals. The defamatory statement was an allegation of negligence in making a diagnosis of the illness of an eminent politician and the physician's own views of his diagnostic methods were described in some detail. One of the physician's favourite lectures to students was on the importance of the case history. "He saw it all as a logical progression, starting with the account of the patient about his illness, his response to expert questioning, then the objective information obtained by examination, supplemented

[2] Cassell, 1966.

by the laboratory and X-ray investigations." [3] From these, he used to tell his students, they must make their primary diagnosis and initiate the correct treatment. Yet when he and other equally distinguished consultants were confronted with a baffling and difficult case he was disposed to think, in moments of introspection, that the whole plan went by the board. "You were back with hunches and guesses and vague memories of something which had worked on a previous occasion, you were not quite sure how. Every physician had his obsessions, his favourite diagnosis and methods of treatment, just as every surgeon had his favourite instruments." [4] This at any rate was what the fictional character was made to say. I cannot judge of the amount of truth which it contains, but let me say that I do not read anything discreditable to the medical profession into it. I do not refer to it in any spirit of criticism. It seems to me to be wholly natural that when confronted with a difficult problem a physician should work upon a "hunch". It is what Sir Owen Dixon described, in the passage I have already quoted, as "an intuitive judgment based on an anterior equipment of knowledge and of great experience". The point that I wish to make or the question which I want to ask is not whether it is right that a physician or a surgeon, for that matter, should act upon a hunch, but whether the modern tendency to specialize has had the effect of limiting the area within which the hunch may lie—if that is the correct verb to describe what hunches do or where they may be found. If the tendency to specialize has had this effect, what is the remedy? It may be perhaps that medical diagnosis will have to become more the work of a team but I personally should be sorry to think that there should develop in the medical profession what Anthony Sampson (in his book, "The Anatomy of Britain") described as a "groupthink". A "groupthink" is a rather nasty but very descriptive word which means the kind of conference often called in a large corporation to "come up with" (so the jargon goes) the answer to a question which the corporation is asked.

In the practice of the law there has not, I think, been the same tendency to specialize as there has been in the practice of medicine. There are, it is true, a few barristers and a few solicitors, who manage to confine their work to a particular field, but the vast majority can only be said to specialize in the sense that there are more or less limited fields in which they do not practise,

[3] ibid., p. 212.
[4] ibid., p. 213.

rather than that there is a particular field in which they do. And of course, whatever a man's practice has been at the Bar once he becomes a judge, he must, save in a few exceptional cases, be proficient in every branch of the law. The truth is, I think, that the law does not really admit of much specialization. If one is concerned with some matrimonial situation problems of property and various branches of the revenue laws will often be involved. If one is concerned with a revenue problem a great deal of knowledge of trusts and companies may be required and so on. But for whatever reason the fact is that we do not in Victoria go in for specialization in the way that the medical profession does.

On the other hand lawyers just as much as anyone else are subject to what Dr. Hurley described in the paper to which I have referred as the "natural and easily understandable human desire to seek after some formula or sign, something which will serve to overcome the difficulties and solve the problems of life without the necessity of clear and logical thinking and hard laborious work".

I think that this manifests itself in a reluctance to pursue the enquiry after the facts and to arrange them in an orderly manner. Collecting all the facts is hard work and arranging them properly is also hard work. The temptation perhaps is to seek a conclusion as to the legal situation at too early a stage and having done so to endeavour to fit any further facts that come to light into the legal situation that has been conceived. There are I think continual pressures at work which tend to make it difficult for a lawyer to resist this temptation. One source of pressure is the fairly obvious one: the client himself is apt to select those facts which he considers relevant and with the best will in the world to withhold others. One of the great skills of a lawyer—and particularly of a solicitor who is primarily concerned with the ascertainment of the facts—lies in ferreting out all the facts. But this is an everyday problem which arises between client and solicitor, and to some extent between solicitor and counsel. The extent of it and the way it is overcome depends upon the particular client, the particular solicitor and the particular counsel. But there is another source of pressure more subtle in its operation of which I think we should be conscious. It is the pressure of public opinion to speed up the legal processes. The law's delays are a time honoured gibe at the legal profession and whilst it is right that we should be continually vigilant to seek ways of avoiding *unnecessary* delays, we must never allow the clamour for expedition to

prevent the proper investigation of all the facts. We are continually being told that trials take longer than they used to do, that arguments take longer and that for this reason the public is losing confidence in the legal system. Be that as it may—and of course we must take notice of these things—we must never, I believe, endeavour to meet these complaints by skimping in any way the examination of the facts. It is after all the facts that govern the legal relationship of the parties and if the facts are not fully ascertained the legal conclusion reached may well be erroneous. This may sound obvious enough but I believe that there is a very real danger that the continual complaints about the length of time that legal processes take will produce a tendency to subject the facts of a case to less than a full examination. The truth is that life is continually becoming more complicated—it is infinitely more complicated today than in our grandfathers' time—and this simply means that it takes more work and more time to ascertain and arrange the relevant facts.

And so it may seem that we are destined to endure ever longer and more complex cases and to devote more and more time and labour to the investigation of the facts. This gloomy prognosis probably contains some truth but you will notice that a moment ago I referred to the relevant facts: relevant, that is to say, to the legal situation in hand. The real skill of the lawyer is in selecting from the mass of facts which he ascertains those that are relevant to the case. In this I think we are probably not as good as our forebears, but in the development of this skill lies one of the antidotes to the ever increasing delays of the legal processes.

The problem of selecting the relevant facts is, in many cases, more difficult than it used to be. This is because it is more difficult to know what is relevant and what is not. This position has largely been brought about by the activities of the legislatures which more and more tend to express rights and liabilities in terms not of legal concepts but of vague generalities which somehow or other the lawyer must interpret and apply. The less precise the obligations the more difficult it becomes to know in advance what facts are relevant to the determination of a question arising out of those obligations and what are not. I say "in advance" because what the legal profession, other than the judges, is concerned to do, in effect, is to forecast what answer a Court would give to the question if it were presented to it. So long as one is dealing in legal concepts of rights and duties this can be a relatively certain process, but when new rights or duties are

created which seem to disregard legal concepts great uncertainty is introduced. And with that uncertainty the difficulty of knowing what facts will be regarded by the Court as relevant to the solution of the particular problem is also increased. This of course is not to say that new rights and duties cannot be introduced to meet new situations but it is intended as a plea that they be introduced with precision so that one can ascertain from the terms of the particular statute what facts are relevant to the determination of a question arising out of those new rights or duties.

The problem of selecting relevant facts from the mass of facts which are ascertained must also arise, of course, in the practice of medicine, and I would like to turn again to Dr. Hurley's paper and to quote another paragraph from it. "It is not sufficiently realized", he said, "that the collection of information relative to the patient's illness is an art which can be acquired only by constant and serious practice. Much patience and tact, an understanding and sympathetic attitude, and a good deal of time may be necessary in order to get the true facts and place them in proper sequence. Ability of this kind and a practical knowledge of the theory of evidence are absolutely essential for a successful barrister, and hardly less so for the sound practice of medicine". You will notice that Dr. Hurley speaks of information *relative* to the patient's illness and I take him there to be referring to what I have called the relevant facts. The only other comment that I would make on that paragraph—and indeed on the paper as a whole—is that when Dr. Hurley said that the ability to ascertain the relevant facts is absolutely essential for a successful barrister, he might have said that it was even more essential for a successful solicitor, for it is of course the solicitor rather than the barrister who is primarily responsible for the ascertainment of the facts. It is an enormous responsibility which should never be underestimated, for once the facts are properly ascertained, most cases, whether they reach the Court or not, will indicate pretty clearly their own solution.

I suggested earlier that the necessity for medical experts to act upon intuitive judgements leads the medical profession to draw conclusions from evidence in a way that would not satisfy the legal process of reasoning. Again I think that it is entirely right and necessary that it should be so, for without the propounding of theories based upon experience, medical science would not progress at all, or if it did, its progress would be seriously retarded. One frequently reads in the popular press—and

of course more accurately in professional journals—of so-called conclusions reached by a medical expert upon what seems to the layman—or at any rate to the lawyer—to be evidence which does not point to the conclusion in any way, or if it does to leave open a number of other hypotheses which seem equally likely. But in truth the medical expert is not so much expressing a conclusion as propounding a theory and publishing it in the professional journals to see whether the experience of others working in the same field supports the theory or requires its modification or rejection. It is necessary that it should be so in order that statistics which might support or disprove the theory can be collected and analysed. You cannot turn to statistics to test a theory unless they have been compiled with the object of testing the theory. There are really I think three stages. First you must have a hunch (perhaps based on a fairly limited experience); then, after some evidence, you propound a theory and ultimately it may grow to a conclusion. I suspect that what we read in the press is often at best the theory stage and if that is so it is unfortunate that it should be presented to the world as an established conclusion. For example, I read in a newspaper recently[5] that a British pathologist had reached the conclusion (that was the word used) that people who die young from heart disease were probably bottle-fed babies. This at any rate was the arresting introduction to the report. The unfortunate pathologist was said to have reached this conclusion from examining the coronary arteries of one thousand people brought to him for post-mortem examination. Their ages ranged from new-born to 45 years. The coronary arteries of each were examined microscopically with the object of determining what those with badly diseased arteries had in common. Unfortunately the newspaper report did not disclose what possibilities the pathologist considered. It merely said that the pattern that eventually emerged was that heart disease in teen-agers, bad enough to cause fatal coronary attacks in their thirties and forties, was far more prevalent among those who had never been breast fed. The premature hardening of the arteries was believed to be caused by gastric attacks due to bottle feeding and that disturbance from the gastric attacks can cause the blood to flow abnormally setting up turbulence at heart artery junctions.

On this information one cannot help wondering what evidence the pathologist had of the extent of the gastric attacks

[5] *Herald*, 16 April, 1966.

suffered in infancy by the individuals upon whose bodies he performed his post-mortem examinations, some of whom had reached forty-five years of age and how he knew that such attacks were "due" to bottle feeding. This report made me wonder whether it is true to say, as Sir Clive Fitts once said in a paper delivered to this Society[6] "that the pathologist is probably the only expert medical witness who deals entirely with facts and is not forced to speculate." It is only fair to say, however, that I do not think Sir Clive was referring to the activities of a pathologist engaged in research.

Now I appreciate that this newspaper account of this theory may be somewhat misleading but it illustrates sufficiently what I mean by the three stages in the development of a new medical theory. Such methods of "reasoning" have no place in the law but lawyers are, from time to time, concerned with the evidence that lies behind a medical theory and the medical expert may find that the theory in which he "believes" will not be accepted by a lawyer, because the "evidence", on which the theory is based does not enable the theory to be proved by deductive reasoning.

In the case decided in 1949 *(R. v. Jenkins ex parte Morrison)*[7] which was popularly known as the "Whose Baby Case", evidence was given by a distinguished pathologist of blood tests which had been made with a view to establishing whether one of the children in question could have been the child of the couple who had treated her as their own. For a number of reasons the evidence was not treated as decisive of the problem which the Court had to resolve. No cross-examination of the pathologist was attempted and this provoked the following comment from one of the Judges (Fullagar J.) who considered the case on appeal:[8] "No attempt was made to cast the slightest doubt either upon the tests made or upon the inferences drawn directly from them. The possibilities of human error in the making of the tests are, I should think (in view of the qualifications of the witnesses) extremely slight in this case. The only comment to which I think it is open is one which affects the lawyers and not the scientists, and it is that counsel did not ask any expert witness to explain the basis of theory or experience upon which rest the scientific conclusions that a B child cannot be the offspring of A and O parents, or that an Rh1Rh2 child cannot be the offspring of two Rh1 parents.

[6] *Proceedings of the Medico-Legal Society of Victoria,* Vol. V, p. 11 at p. 19.

[7] 1949 V.L.R. 277.

[8] At p. 303.

Dixon J. observed, in an address delivered to the Medico-Legal Society of Victoria in 1933 and reported in the *Proceedings* of the Society,[9] that 'Courts cannot be expected to act upon opinions the basis of which is unexplained' ". A medical expert must therefore always be ready to explain the basis of theory or experience upon which his conclusions rest.

It is I think of some importance that the "hunch" stage should not be confused with later stages in the development and establishment of a theory and I should like to illustrate what I mean by an example from a field which is neither medical nor legal but with which we are all familiar. As it happens, however, it was a surgeon of this city who was responsible for bringing the example to my attention.

The surgeon, who is a member of the honorary staff at one of the great metropolitan hospitals, was said to have advised a friend against the purchase of a dark coloured motor car on the ground that dark coloured cars are more dangerous than light coloured cars and are more likely to be involved in accidents. For all I know it might have been very good advice, but that is not the point. The surgeon was said to have based his advice on the fact that of the very many motor accident cases which he saw at the hospital, a majority involved one or more dark cars. Now this may be reason enough to advise against the purchase of a dark coloured car: it may be reason enough for a "hunch" that the colour of the car can be a contributing cause of motor accidents, but the surgeon's experience is certainly not evidence (in the lawyer's sense of that term) which tends to show that dark coloured cars are more dangerous than light coloured cars or even that they are more often involved in accidents. Is it possible that there are simply more dark coloured cars? Or that the total mileage of all the dark coloured cars is greater than the total mileage of all the light coloured cars so that the exposure to risk of the former is greater than that of the latter? I simply do not believe that there is any *evidence* (in the strict sense) to suggest that one runs a greater risk of accident if one drives a dark car rather than a light one. In order to establish that dark cars are more dangerous than light (to put it roughly) it would at least be necessary to have the following information: first, an acceptable definition of what is a dark car and what a light—with some provision for assigning two tone models to one category or the other; next, it would be necessary to know the accident rate of

[9] Vol. II, p. 1 at p. 11.

each category as so defined and by accident rate I mean the number of accidents in each category per vehicle mile travelled. This much would tell you something, but I am disposed to think that very much more would be necessary to tell you anything useful. Implicit in the suggestion that one should not buy or drive a dark coloured car is the idea that the colour of the car in some way contributes to the likelihood of an accident. Now we are all entitled to have our own individual "hunches" about the answer to this question: it may be that the colour of the car does sometimes cause or contribute to an accident. But there is simply no evidence that it does. Thus it seems to me that before we could say that a dark car was more dangerous than a light car we would have to know the percentage of cases in which the fact that a car was dark caused or contributed to the accident. Even then we would probably not have the whole story, but we would be some way on the road to establishing whether dark cars were more dangerous than light. In these circumstances we can perhaps predict with some confidence that it never will be established. What I have said is enough to show that the collection of the necessary statistics would be extremely difficult and expensive. Indeed one of the great difficulties in dealing with what is called "the road toll" is that we have totally inadequate information about the causes of road accidents. One thing however seems to be clear and that is that in spite of what we read in the press about the mounting road toll, the accident rate (by which I mean the number of accidents per vehicle mile travelled) is declining and will probably continue to do so. But again that does not tell one very much.

Gentlemen, I fear that I have treated this subject in a somewhat rambling manner. I have said more about the use of evidence in the practice of medicine than was wise and I have left unsaid many things that might have been said. But I am not sure that the use of evidence creates particular difficulties, though of course it produces many differences of opinion. The real difficulty, whether in medicine, in law or in daily life, is to know what the evidence is.

Discussion

DR. PETER JONES: Mr. Young has produced many cogent points and stimulating analogies. It would be impossible to mention them all, and I share with him his trepidation in commenting on

the activities of a profession in which I have no training. I, too, shall make little or no reference to the rules governing the admissibility of evidence, except one, which is of historical interest.

The qualifications for giving evidence in Court have been broadened over the years and, for the benefit of my medical colleagues, it was not until late in the 19th century that witnesses other than Christians could give evidence, the oath being applicable only to those who subscribed to its basic invocation and premise.

I would like to offer a classification of the various kinds of evidence to suggest some common ground, or at least difficulties common to medicine and the law, which consists of three orders of evidence. The first order chronologically, is the verbal evidence of the complaint given by the patient or a client—in medical terms, the history and the symptoms. Human nature will ensure that this account, as Mr. Young has said, is highly coloured and one might add slanted, selective and biased. Worse, the lecturer may be impatient or, in medicine, burdened by the mental set imposed by a chosen speciality which could distort the picture obtained.

One of the most important functions of the family doctor is to choose wisely the consultant to whom he turns, for much depends on his choice. In paediatric practice, or with a patient presenting in coma, the history is hearsay or second-hand and requires very careful evaluation. Yet this may be in some situations "best evidence". I recall with admiration that an eminent neurologist of this city travelled hundreds of miles one week-end to obtain from a garage mechanic a first-hand account of the onset of an epileptic fit, which proved to be of great value in determining the exact site of the lesion.

Second order evidence is the evidence obtained by examination—the clinical signs. They are facts observed, but still open to dispute. I am not sure of the exact equivalent in law, but it is possibly the length of skid marks on a road, the description of a damaged car by a competent mechanic, or an eye-witness account of some event.

Third order evidence is more concrete. For example, an X-ray plate, the number of cells in a standard volume of blood, or, that syntactic blunder, the "blood alcohol level". Mr. Young suggested the legal equivalent, namely, letters, accounts, bank statements, etcetera.

In medicine there are no rules of admissibility and anything

may be germane to the case, but this breadth of scope brings with it a greater responsibility in the selection of the various ways in which third order evidence may be gathered and its evaluation.

Mr. Young mentioned the relative value of objective and subjective evidence and I am sure that all the medical members agree with Dr. Leslie Hurley's plea that the history should be taken with great assiduity. The proliferation of investigative techniques in the past decade has been quite fantastic. There is an enormous range of specific and accurate biochemical tests which can be carried out on miniscule amounts of tissue or fluid but, of course, these bring further problems in selecting the most appropriate and those likely to be most helpful.

It is also possible nowadays to examine each component part —without "taking the car to pieces", in Mr. Young's analogy. Into every artery greater than 4 mm or 5 mm in diameter, the dexterous radiologist can introduce a slim tube and by injecting radio-opaque fluid he can obtain an outline of the arteries and veins, in any organ or region. By means of an image intensifier and a television camera this can be displayed and recorded on videotape complete with sound to form an annotated record, reproducible for further study and comparison.

In the phrase of Sir Owen Dixon, "the anterior equipment of knowledge and great experience", it may be possible to detect a pattern of symptoms and signs which, in a particular sequence in a particular patient, suggest the diagnosis and its corollary—a line of treatment. Perhaps this is why the practice of medicine will always be an art and not an exact science.

The value of the evidence is measured by the use to which it is put. One cannot equate a diagnosis with a verdict. The initial diagnosis resembles more closely the advice given to a client. It is arrived at on the evidence available, on "facts" which have not yet been tested or confirmed by therapeutic trial or in the operating theatre. To some extent, the medical practitioner is his own judge and jury, although his initial diagnosis may on occasion be tested by argument in consultation.

The final verdict is traditionally supplied by the pathologist on material obtained at biopsy or autopsy, but more frequently by the satisfactory response of the patient to treatment which, of course, may or may not have had a bearing on the outcome.

DR. G. SPRINGTHORPE: The question of expert evidence is important; there is great difficulty in obtaining expert evidence

which can be appreciated by the people in Court who are actually going to make a decision—and I refer particularly to the Jury. I do not know how this can be overcome, but in some way I think the difficulties can be minimized.

I occasionally have the privilege of acting on the Board of the Commonwealth Health Authorities. Generally three people, and one who is Chairman, are appointed. One represents one side (in effect the patient), one represents the Commonwealth, and a third person, supposed to be a kind of Judge I suppose, or impartial Chairman. I have been very interested over the years to notice the ease with which this Board of three who are finally chosen, not at random and not on the basis of their own statement that they are in fact experts, comes to what appears to be a reasonable solution. In many cases there is the authority to have an assessor. I have been very frequently most mortified to feel that particularly the members of the jury have never really had the facts, as fas as we can ascertain them as doctors.

DR. AINSLIE MEARES: I gather from Mr. Young's paper that evidence really concerns three factors. It concerns facts, some mental process concerning these facts, and some conclusions. I would just like to comment about the facts and about the mental processes in some aspects of medicine. I really believe that the facts as ordinarily understood have nothing to do with the case whatsoever. In psychiatry, for instance, the patient says, "People are looking at me strangely." The doctor wastes his time in trying to establish whether that is a fact or not, and that is not the fact, the fact is not relevant. There must be some other category of facts in this. The fact that is relevant is the patient's evaluation of some situation. So we have got two layers of facts, and it is this fundamental fact which is the fact of reality in a lot of medical work. In the earlier part of Mr. Young's paper he made reference to deductive logic concerning the facts and later spoke a good deal about hunches. He was almost, I thought, prepared in some ways to go along with hunches, but the point I would like to make or offer is that I do think that there are other mental processes of evaluating facts than a two-and-two type of logic—that we have within our mental mechanisms some kind of intuitive processes which often can bring us to a conclusion from facts as we know them. We come to this conclusion often when we are in rather a relaxed state of mind. We feel then that we have a conclusion and then we have to produce some sort of answer for it. In my own particular case this means that I have

to write back to the doctor who referred the case and give him some reason for my conclusion. I often realize that the evidence that I am giving or the facts that I am presenting to the doctor who referred the case are nothing more than perhaps a logical rationalization of the conclusion that has been reached by some other mechanism of the mind altogether.

It occurs to me that this same process might easily work with a Judge who comes to a conclusion—not by a method we regard as a kind of guess, but by some other kind of process of the mind. Then, in summing up, he can give his logical reasons for this conclusion.

MR. X. CONNOR, Q.C.: This Society has now been operating for a considerable number of years, with distinguished members from both the medical and legal professions, but it still does not seem to be appreciated that each profession is trying to answer different questions. Members of the medical side of this Society, when they are considering evidence, are thinking in terms of how to cure the patient. However, when you get to Court the question is quite different, and it seems to me silly for one profession to be criticizing the other about how it goes on, when each of the professions is referring to an entirely different question. It would be very pleasant theoretically if every time the Workers' Compensation Board came together it could conduct a scientific enquiry to find out what really is the truth. Generally speaking all it can do is try (on the balance of probabilities) to decide the rights of two competing parties on the case that is presented that morning. This simply does not permit of a scientific investigation in order to find out the correct label for the particular case. All that can be done is, on opinion evidence, to decide the probabilities.

SIR CLIVE FITTS: I would like to echo what Mr. Connor said, and having been so frequently in the Workers' Compensation Board I feel my solution at any rate is that the doctor in the witness box takes himself and his evidence far too seriously. The importance of it is not as great as it seems to be to us. I cannot help thinking that once we get into the witness box as doctors it certainly is a different world, and it is an apparently terribly difficult thing when you start to judge the case. You colour the answers to questions. We feel resentful about not being placed in the position in which we would like to be because we are in fact starting to judge the case instead of giving detached evidence. I think the use of the word "detached" tonight sometimes might

have been applied to the fact as well as the truth, but the other thing is that the fact is that while we are giving our evidence I should imagine that the Judge or members of the Workers' Compensation Board have seen us in action on a number of occasions and are judging the evidence and the witness a little more closely perhaps that we realize ourselves.

My chief in London, a celebrated heart specialist, used to say to his students when they asked a question: "An evil and adulterous generation seeketh after a sign; and there shall no sign be given to it . . ."[10]

MR. J. MCI. YOUNG: Judging from the discussion the subject is evidently one that is of more pressing concern to members of the medical profession than to members of the legal profession. This no doubt is because the members of the legal profession think that they know all about evidence and its uses. The medical speakers who have spoken have appeared to me to have been more concerned with the way in which their evidence is received in Court than with the process by which they in diagnosis or treatment use the evidence upon which they act, although some of the speakers made some mention of those processes. So far as the use of medical evidence in Court is concerned, I really think that Mr. Connor answered what medical speakers had to say.

It is no doubt galling to a medical witness when called upon to give evidence in Court to be told that he cannot say certain things or to be prevented from having an opportunity of saying all that he would like to say, but the reason for it lies, I am sure, in the different question with which the medical witness is then concerned: different, that is, from the question with which he is concerned when is treating a patient. What he is concerned to do when he is in the witness box is to give his opinion of the particular person's condition that may be in issue in the proceedings, and as Sir Owen Dixon observed in the paper which he delivered to this Society many years ago, and to which I made reference earlier, medical witnesses cannot expect the Courts to accept a medical opinion if the basis of reason or experience upon which that opinion is based is not explained.

The problem is, I think, essentially one of communication. It is a difficult problem. It is a problem which confronts a doctor when he is asked to put a label on a condition. He, in one sense, ought not to be required to put a label on a condition if he is

[10] Matt. XII, 38.

capable of explaining to the Court, without the use of a label, what his opinion of the condition is. But the medical witness, who in this respect is no different from any other expert witness, cannot expect to have his opinions accepted unless he is capable of explaining the basis upon which those opinions rest. That does not exclude an opinion based upon knowledge and experience which cannot be demonstrated by deductive logic, provided that the knowledge and experience are sufficient to afford what appears to the Court to be a reasonable basis for the conclusion.

Dr Springthorpe raised what has been in a sense a perennial question at this Society, and that is whether there could not be some better means of having cases involving medical problems determined than by a Judge unaided or by a jury unaided by independent medical assessors. Of course, even in the cases to which Dr. Springthorpe referred, such as arise in the Admiralty jurisdiction, the assessors do not decide the case, they are there only to assist the Judge where necessary. I think that that is altogether too great a problem to be dealt with in the few minutes that are available to me at this stage of the evening, but I was not sure whether Dr. Springthorpe's suggestion went as far as suggesting that the system of medical assessors should be employed in jury actions as well as in actions tried by a Judge alone, and if so, whether the medical assessors were to retire with the jury whilst they considered their verdict.

Dr. Meares' analysis of the different kinds of facts which may be relevant for the purpose of making a medical diagnosis, I thought, was very interesting. I do not think, however, that what Dr. Meares was saying was essentially different from what I was endeavouring to communicate in my paper. Dr. Meares gave the example of the patient who says, "People are looking at me strangely", and regarded that fact as irrelevant. But behind that statement, there would lie some fact (I do not know what it would be) and it is that fact which the psychiatrist must ascertain in order to make his diagnosis.

I would like to have access to Dr. Meares's elaborate system on the mental process which produces "intuitive conclusions" because it seems to me that there is a great scope for discussion in that field. If a Judge is unwise enough to decide a case by intuitive conclusions rather than by deductive reasoning, except where matters of discretion are involved, the decision is very likely to go on appeal. However, I appreciate that what Dr. Meares was saying was that a Judge may reach his conclusion by

intuitive process and subsequently provide logical reasons for reaching that conclusion. Whether that is possible or satisfactory I think lies within the realm of psychiatry rather than within the realm of the legal profession.

The Late Dr. C. H. Dixon

Before the meeting ended, Mr. P. D. Phillips, Q.C., paid a tribute to the late Dr. C. H. Dixon, who died on 12th April, 1966. Dr. Dixon was an early member of the Society and in those early years he took a continuous part in its activities and, because of his official position as secretary of the B.M.H. and later the A.M.A., he was able to make a very valuable contribution to the proceedings of the Society. To the lawyers who knew him he was always extraordinarily perceptive and understanding of problems in relation to their profession. Mr. Phillips concluded that while the loss to the medical profession was great, it must also be shared by the Society to which both professions belong and of which Dr. Dixon had been a most arduous and valuable member.