LABELS AND LIABILITIES

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Delivered at a meeting of the Medico-Legal Society held on 5th October, 1968, at 8.30 p.m., at the Australian Medical Association Hall, 426 Albert Street, East Melbourne. The Chairman of the meeting was the medical Vice-President, Dr. T. H. Hurley.

IN many ways our professions are concerned with a common search for truth,—the truth of causation of an incident on the one hand (Law), the validity and truth of causation of disease (Medicine). Time and again the cause of an incident and its consequences becomes the common denominator of both professions and each are confronted with the need to make a clear statement, unfortunately only too often in black and white when only greys will suit.

I propose in this paper to deal with the essentials of cause and effect, of the causal fallacy with its relationship to mere words of explanation, rather than true causality. It is not intended to confront you with medical argument, nor do I hope in turn, to be confronted or caught up in legal controversy. Rather I desire to enter the lists of dispute by a critical survey of the basic weakness of Medical Labels or terms, which attempt to fix and make static, at an instant of time, the multiple issue of an ever varying physiological environment. By the specific label it is as if we are asked to indicate the final placings of the race by an appraisal of the situation at the six furlong post.

It is my deep rooted and sincere belief that both medicine and law will be the better for the exclusion of all labels, and with a degree of humility and depth of understanding, recognize only processes. Thus we will eliminate the labelled impression of complete understanding—a self-complacency which leads to mental inertia, retarding rather than explaining. Where a process is not comprehended it would be better to admit this than to cover this by giving it a name of authority. A text book of medicine I believe could be written excluding all labels and referring only to processes at work.

That to progress we must give attention is now accepted by scientist and philosopher. It is implicit in the words of Burnet when he said—

"Man must seek to achieve understanding of his own ultimate

nature in the cells of his own body, in the processes of his own mind, and in the forces which determine his behaviour as a gregarious animal". In a less scientific vein, over twenty centuries ago an imaginative clear-thinking physician made a profound statement which could have made an impact on the Biological world equal to what Einstein's Theory produced in the physical world—said Hippocrates—

"The diseased state results from the changing restlessness of the winds, from the instability of the human form, from the tissues which are inadequate."

Even more beautifully in a very moving document on human behaviour, based on sheer understanding rather than science, Antoine de Saint-Exupery wrote—

"For only interrelationship and reciprocities exist" and to illustrate his point, showed the limitation of measurement in the following words—

"If a man pulled his house to pieces with the design of understanding it, all he would have before him would be heaps of brick and stone and tiles. He would not by this process, be able to discover therein the Silence, the Shadows and the Love and Affection or the privacy they bestowed."

How often, despite the beauty of the edifice, is the absence of the love and affection responsible for, say, hypertension, hyperacidity, tachycardia, to give a few misleading "Labels" which only divert one from the true cause, merely describing rather than explaining.

It would appear that in the causes of ill-health there is a baseline of such complexity that in fact "at that level" only interrelationships exist, and no true single cause can be extracted. Another way of saying one can integrate detail to a certain point, but beyond this further analysis can only result in disintegration—computer or not.

Health is not therefore merely the absence of disease, but as defined by the World Health Organization, "A state of harmonious balance between physical, mental and social factors."

Highlighting the thought that only inter-relationship exists it would seem that from our first breath, the challenge of living is like a balance, poised at its fulcrum, subject to disturbance and strains, attacked by organisms in our environment, catastrophies of war, and the exigencies of starvation. In this menstrum, constantly under assault, the body has developed a reactive mechan-

ism—for example, fever in response to germ attack—and to this reactive state we give the label—disease.

To take any single element out of its context and so affix a label to the reaction alone, is absurd. No single organism attacks an individual in the same way, and no individual indeed, responds in the same fashion. Reaction in fact would depend on the degree of preparedness of the individual (immunity, defence), and more often the state of the soil is more significant than the nature of the seed.

To accept the label—"This patient is suffering from . . . (label)," in the final analysis is never possible.

One remembers Ulysses's rebuke to Euryalas, who tormented him that because he would not participate in the wrestling, he must be some "skipper of a merchant line whose language is all of cargoes."

To which, with wonderful beauty of expression and economy of line, Ulysses replied—

> "Not all fair gifts to all doth God divide—
> Eloquence, beauty and a noble heart.
> One seems in mien poor, but his feebler part
> God crowns with language that men learn to love.
> Another, though in mould of form and face
> Like the immortal gods he seems to be,
> Has no wise word to crown the outward grace.

At the dawn of science, when it was believed physical measurement was possible for all things, the invisible did not exist and was unacceptable.

Disease had to conform to scientific and mathematical principles—i.e. if 1,000 organisms produced so much, then 2,000 should produce twice as much. Even today by more and more minute measurements, we are simply only revealing more refined inter-relationships rather than causations. Slowly but surely there is a growing awareness that biological reaction, mental or physical, alters with previous experience; that the reactor made a little more aware by this earlier encounter, becomes more alert, more sensitive, more annoyed, more unhappy, and hence even more provoked. For this state of reactivity, our first label is introduced—

Allergy—Meaning excessive reactivity, entirely a product of the soil (the patient) rather than the seed. In simple language, repeated stimulus from any cause results in a well prepared de-

fence. Thus the stimulus on day ten will produce a vastly different disease from day one.

If you prick me (stimulus)
Do I not Bleed? (reaction)

But if you prick me repeatedly, do I not prepare a protective defence, creating an alarm system and other such devices. The application of this truism to all forms of stimulus is an absolute necessity to the understanding of cause and effect. The stimulus (label), may be identical, but the reaction variable.

If in pleadings about traumatic incidents we argue from the episode outward (as if this were the only factor at work), we are unmasking one of the greatest weaknesses of Medico-Legal dispute, for we find ourselves attesting by label, the significance of an over-simplified cause.

In all the examples which follow substitution of process for label would have cleared all difficulties.

A good example is the case of M.K. An appendix was the point at issue. When he reported pain at 10 a.m. he was reporting the continuation of an inflammatory process which began at the onset of pain at 3 a.m. It was hair splitting to talk of an initial diagnosis of abdominal muscle strain due to employment. This indeed only caused diagnostic delay in management. It was in fact a wrong label. The process—inflammation—was a continuous one from the onset of pain, and by simply referring to "inflammation" (a process) rather than "appendicitis" (a label), a much greater understanding becomes possible.

S. I. Hayakawa in an article—"How Words Change Our Lives" talked of the "semantic habits" of people who act as if words can be fully explained by more words. There is the illustration of a person asking for a definition of Jazz of Louis Armstrong, with the famous answer—"Man, when you got to ask what it is, you'll never get to know".

Let us look at the dictionary meaning of influenza—"An epidemic disease caused by bacteria, characterized by catarrh, high fever and extreme weakness of the patient." This of course is wide of the truth, it is endemic as often as epidemic, not caused by bacteria and not necessarily with high fever.

Even worse is the definition of incurability—"The quality of being incurable" "Not capable of being cured". Yet cure can mean a variety of things.—We may cure bacon by preserving

from corruption; cure to provide a remedy; cure to do away with the evils; cure to restore health.

P. W. Bridgman, Nobel Prize Winner, made a tremendous contribution to Science by showing that the meaning of a scientific term lies in the things it achieves and explains, and this establishes its validity rather than a simple verbal definition, i.e., it depends on what it stands for.

The reaction to a flag is not simply as an old piece of bunting.

> "Although by the King we were sorely oppressed,
> I cheered, God forgive me, I cheered with the rest."

Here, surely, the reactive state determines behaviour and logic is left in the reluctant rear.

In a case deciding the significance of a second coronary attack on a previous one, one Judge made a cogent comment on labels—Attempted explanation of causation and consequences can be as unhelpful and unhappy as definition of reasonable doubt. In the search for some grounds for isolating particular events from the totality of circumstances preceding a later event, various adjectives such as "Direct", "Proximate", "Decisive", "Immediate", "Effective", and "Real" have all been pressed into service to qualify the cause. From these there is an easy drift to such terms as "Materially", "Contributing Factor", but this does not dispel the difficulty.

As death sooner or later is inevitable for every man, it is impossible to ask whether the alleged consequences would necessarily occur. In relationship to death, such words as "Proximal Direct", for choosing some link in the causal chain, presents special difficulties, for at the point of death, cause and consequence are indistinguishable. e.g., Death—gun-shot or blood loss? The latter, the physician's assessment of the proximal cause. Likewise—syncope! Is it circulatory or asphyxial? and so on.

Taylor in his Medical Jurisprudence states that "Asphyxia" is the cause of death in strangulation, thereby referring essentially to the manner in which the injury may operate and to the proximate cause.

When a Judgment refers to the effects of coronary occlusion as dependent on "such degree of infarction" that the heart "ceases to function", the statement is a gross oversimplification of the true state of affairs, for it is more often the site of the infarction—involving as it may, a minute yet vital area of rhythm control, rather than the degree of infarction, that is important.

Indeed no single factor can be taken out of context in our assessment of causality and again the underlying process alone is the significant point.

A preparedness to stand or fall by a single observation is a particular source of difficulty.

Let us take for example the electrocardiogram.

This is an instrument which gives information on the electrical changes occurring in the heart, following muscle damage. Interpretation should be made in the light of previous observation if possible, and while conceding certain acute changes can be characteristic, the findings should always be related to clinical history or past tracings. Certain drugs, loss of potassium etc., inflammatory states, to name only a few, can each produce electrical changes in heart muscle identical with coronary disease, and only by knowing all the factors can proper interpretation be made. Where a coronary pattern is presented it should be remembered that the instrument records the situation only at a given moment of time, and only comparison with further tracings can indicate progress or variation of the lesion.

From a single electrocardiogram no observation on prognosis can possibly be made, yet time and again a single electrocardiographic tracing is taken as evidence and its significance out of context becomes a matter of dispute.

A very complex situation presented in the case of one W.K., who presented with a series of labelled entities over the years 1957 to 1966. He begins with osteomyelitis following injury to the right knee. Certificates giving the diagnosis of "Rheumatic Arthritis" are simply giving a label only to the pain resulting from the osteomyelitis. The proof that the osteomyelitis remained active was revealed in 1961 when an abscess developed in the bone—called and proven by X-ray, a Brodie's abscess. Such abscess remains characteristically dormant, but is aggravated by trauma and hence a flare occurred in 1963. In 1964 he suffered further back injury which caused intense pain requiring a brace. He progressively looked sicklier, and in 1965 developed congestive heart failure with an electrocardiogram revealing so-called "ischaemic" changes. There was no other evidence of ischaemia.

Amongst the medical certificates supplied shortly before death, was one stating he had made a good recovery from his cardiac condition, and was fit to resume work, despite his local doctor's statement of breathlessness and irregularity of pulse. He died six weeks later.

In actual fact, despite the medical reports of reassuring character, the obvious and more rational approach was to recognize the continuous process at work.

1. Proven osteomyelitis (certified rheumatism and rheumatoid arthritis—unproven) 1957.
2. Proven Brodie's abscess—therefore infection is active 1962.
3. Intense back pain—No clear cause—called strain. By the intensity of the pain this could have been infection in 1964.
4. Hence chronic infection the cause of electrocardiographic changes.
5. Ultimate cardiac death of infective myocardial nature, of which there was evidence, rather than ischaemia, of which there was no evidence except a single electrocardiogram.

My comments were—

"It is hard to accept many of the statements in certificates supplied to this patient—for example, that he had made a good recovery from his heart failure in 1966, when two days later a Medical Officer of the Department pointed out that he was cyanosed with fibrillating heart, and looked as if he would not be fit again. The subsequent death confirms the picture of progressive myocardial failure with considerable evidence of a background of chronic bone infection, but none of coronary disease."

There is no substantiating evidence that the diagnostic label of 1965 of myocardial infarct, based on a single electrocardiogram, was in fact an infarct, particularly as at the time there was no clinical episode if he was being treated for the active back condition, and still suffered the Brodie's abscess. Labels of rheumatism and rheumatoid fall into the same category. These labels were completely misleading and were merely referring to the pain produced by Brodie's abscess.

These views were accepted by the disputants when presented in this way.

Observable yet often insignificant deviations from normal are too often labelled as disease states, and the underlying processes responsible for the change, are too frequently ignored.

Instrumental measurement of blood pressure is another good example of this.

The label of hypertension is based on the acceptance of a fairly static normal, and the accepted 100+ age is an artificial

convenient over-all average. Any measureable deviation from this man-made standard does not take into account the inbuilt "Fright and flight" mechanism that man possesses. Variation of blood pressure, made possible by this protective mechanism, is physiological and normal, and indeed hypertension under certain conditions is therefore normal and the absence thereof pathological.

Indeed it would be more accurate to say the blood pressure is suffering from the person, rather than he from the blood pressure. Only multiple readings can determine that it is constantly elevated.

What then do we mean by the so-called scientific term "arteriosclerosis"—Surely according to Bridgman's definition "only the things which establish its validity". Thus it may be present without any effect, or it may involve vital cerebral vessels, so producing bizarre behaviour patterns of an order differing widely from involvement of a peripheral limb artery. All have an entirely different validity and cannot under any circumstances be classified as a single pattern.

In using a label, one must have some pre-conceived idea, and these create what may well be referred to as "Patterns of Prejudice". We tend, despite scientific training, too often to fall into the error of giving a name to a state of being or symptoms—thus all over 70 years (in some 65), are called senility—arthritis, to all joint pains, ulcer to all dyspepsia and so on. Identification patterns based on taking one element out of context—age in senility, abdominal pain in ulcer, chest pain in angina, is common to all forms of human communication and speech. In fear of being lost in detail—an equally bad fault, we tend to make broad generalization of a most inaccurate kind.

Indeed, the label atherosclerosis as a disease is frequently given to a person in normal health, who is observed to have arterial thickenings or calcifications. With such label affixed, should he suffer death after an interval of time, from accident, the tendency is to regard the death as due to natural causes. This indeed created a major Medico-Legal argument in a male who died suddenly ten days after accident. Autopsy revealed a large heart, so that death was ascribed to natural causes. The fact that he had indeed lived a normal functional life to the time of the accident, that he had even undergone major surgery some months before, that the traumatic episode had produced a period of hypotension and shock, and that from the accident

onward a clear deterioration of health occurred, were all ignored.

This patient had been completely adapted to his cardiac enlargement until the accident changed the whole picture.

To ignore the functional deterioration from the instant of injury and to ascribe death as due to natural causes, was an unfair and unreasonable appraisal of the true situation. Neither atherosclerosis or cardiomegaly should have been taken out of context. The Court accepted this interpretation of the case.

The question of course may well be asked if one truly analyses "Does the pathologist at autopsy ever determine the true cause of death?" When a patient with, say, mitral stenosis dies, this condition had been present for many years.

A further classical example of an observed deviation from normal is seen in the radiological diagnosis of spondylitis, a condition of radiological change in the spinal vertebrae. Such condition—invariably takes years to achieve, and could be recorded radiographically at any period prior to symptoms. To ascribe to "spondylitis" the disability of pain occurring only a few days before, is to ignore the true processes at work and to over-look, to take one example, sensitivity to pain. This varying threshold to pain creates a constant source of controversy, for pain is the one complaint which cannot be measured. Whereas a Margot Fonteyn would leap many feet in the air following the prick of a pin, the tough labourer may not move a limb; pain can be a very late manifestation of advanced organic disease—breast cancer, gastric cancer etc., yet it can also be intense where no disease is present—nervous dyspepsia, colic, etc. or the chronic back-ache.

To offset this we would do well to recall the wonderful episode perpetuated in a painting of Harvey, revealing to King Charles I, the traumatically exposed heart of a soldier—called Ectopia Cordis—"I carried the young man to the King, so that he might with his own eyes, behold this man, alive and well—and with his proper hand touch the ventricle—so to acknowledge that the heart was without sense of touch. . . ."

A patient with a gross psychoneurosis presented with the following co-called clinical entities all based on certification—"Brucellosis", "Brain Cyst", "Spondylitis", "Lordosis", "Sacro-iliac strain", "Spondylo-listhesis". Yet all were related to a lowered threshold to pain and none were truly substantiated as entities in their own right.

Although pain is so dependent therefore, for its interpretation,

on an awareness of threshold, other factors in life also affect this symptom of disease. Clarke Kennedy, investigating human reactions, found that diversion, human anger, sense of loyalty to a cause, were all influential in lessening reaction to a situation of danger. In like fashion, the geographical location of place of work, the presence of stairs at work, the state of health of the family on a given day, all play a part in the significance of an incident.

The effects of physical injury should only be seen in this light.

When Hamlet, "His native hue of resolution sicklied o'er by the pale cast of thought" said "The time is out of joint—Oh cursed spite that ever I was born to set it right", he must have been suffering the agonies of the damned. His self imposed task could well have produced such functional disturbances as "hyperacidity", "tachycardia", "colic", "fatigue", "headache" etc. . . ., and each of his "diseases" could have argued as an occupational "workers' compensation" hazard—the son of a King.

In the light of these comments, let us give critical consideration to the Workers' Compensation Act and how it is influenced by over-simplified labelling.

J. F. Hill, in a magnificent review of the Act,[1] pointed out that it was incumbent on the Practitioner to obtain a full history of the work, the hours worked, the effects on the patient's health, full medical reports, specialist opinion, death certificate, and full post mortem report. This seems complete enough, yet there is no reference to the functional living conditions of the worker, his background or family history. "The pressure of work on established illness is to be assessed" he states, yet a worker heavily mortgaged with hire purchase would be more disturbed by possible absence from work, or the not doing, than the nature of the work itself. The worker in an economically sound position provides a completely different reactive state.

The Act places all the emphasis on work pressure, established illness, and so on, and pays quite inadequate heed to the significance of the background.

Thus, when it is advised that it should be determined whether "the work performed by the deceased aggravated or accelerated his condition thus shortening his life span", it is taking physical work out of context. The sheer anxiety of losing his livelihood could aggravate his illness in a fashion far greater than would his work load, and most often it would be true to say that indeed

1 Law Institute Journal, 1967, p. 165.

the work load was beneficial. To take the reverse view is to put the cart before the horse—the Court before the patient.

To indicate that this is the true appraisal of the situation we are told that if the doctor believes a worker is unfit, he must sign an appropriate document giving the apparent diagnosis, and the grounds of the opinion based on the following type of form.
The Clinical Examination reveals . . . .
The Pathological Examination reveals . . . .
each leaving a short line of three inches for the answer. No attempt is permitted to truly equate injury with environmental demands, and a strong temptation is provided for a single label.

All this ignores the fact that any disease condition, like a novel, is a continuous process from beginning to denouement, and the multiple labels picked up on the way are mostly half truths at most, or guess work at least—giving those final placings in the middle of the race.

Lest this be regarded as too severe a criticism, let us examine some actual court experiences of the half true or guess work label.

Again the label appendicitis, this time leading to abscess.

A patient is operated for "appendicitis" which began, he stated, with pain at work. The operation over, his symptoms of gastro-intestinal disturbances continue and are labelled "Gastro-Enteritis". Having suffered a recently operated appendix, to introduce a label of gastro-enteritis to explain subsequent bowel symptoms, would have been regarded with suspicion to say the least, but when he presented with an appendical abscess one month later, there was no doubt that the so-called "gastro-enteritis" was an absurd and untenable label. The entire process from onset to abscess was a continuous inflammatory one, and the Court should not have been made to argue on the grounds of a new disease—"gastro-enteritis" occurring after the acute appendicitis.

In the important case of *Potts v. Thomson*,[2] the comment of one of the learned Judges reveals a strong and effective example of the abuse of labels.

". . . it appears" said his Honour, "that there was evidence before the Board that the death resulted from a damaged condition of the heart caused by the virus infection at some stage not specified. It appears further that there was evidence to support the view that the physiological changes which took place consisted of inflammation of the brain substance or the meninges

[2] Supreme Court of Victoria, 1958 (unreported).

and raised body temperature caused by the virus infection and resulting in headache, vomiting and disorientation; and the notes contain evidence that these particular consequences of the virus infection were successfully treated and had all disappeared five days before the death."

In all the above, a number of completely unproven comments emerge. Firstly, that the damage was caused by a "virus" is unsubstantiated. When an infection cannot be pin-pointed the selection of the term "virus", invisible and ultramicroscopic is difficult to dislodge, but is rarely confirmed. It is of no consequence and not acceptable. "Infection" would have been the better term. Secondly, the so-called state of "cure" five days before death, on the basis of temperature subsidence, calls for comment. If the mechanism of death were to be related to infection the heart must have been involved throughout—in the light of his subsequent death five days later, there was certainly no return to normality. Again the process was a continuous one and had this been accepted, the facts would have better emerged.

Thus we would have avoided the following somewhat confused statement based correctly on the expert evidence, and therefore in no criticism of the Judge's remarks—

". . . on the evidence it was the more likely view that injury, consisting of inflammation of the brain substance or meninges, caused a general lowering of health, including an impairment of the general condition of the heart which, despite the successful treatment of the injury itself, continued to exist and contributed to the death."

Another way of saying the operation was successful but the patient died.

Here we see a classic example of confused unclear thinking, and the tendency to analyse what indeed should have been accepted—a continuous process from onset. Why take heart out of its context? Loose labels submitted by experts, such as virus, meningitis, encephalitis, successful treatment, separation of injury from death etc., are all untenable and create useless complications.

Words and scientific terms must have diverse meanings based on their context—You can "Shoot" rapids, pictures, guns, or be "Shot" if you fail in examinations. "Order" can be created out of chaos, but an order can also be given to your grocer, your batsman, or your batman.

Let us observe actual examples of such "mistaken identity". The examples that follow reveal that a grossly incorrect semantic pattern was acceptable until carefully analysed.

The LABEL—"Bourke's Sarcoid" or Lung (i.e. semantic pattern) based on a series of negative sputa and radiological opacities in the lung.

Occupation as a secretary was regarded as irrelevant.

Facts on careful analysis—Occupation was indeed a secretary, but to a brick works where she inhaled dusts.

True Condition—Silicosis, and repeated sputum examinations finally revealed tubercle bacilli (proven).

Tropical Indian Eosinophilia was a label once given to a patient who had never visited India or the Tropics, merely because it was once described in that way.

The label only conveys description, and has no true meaning.

LABEL—Military Tuberculosis based on high fever, weight loss, vague lung opacities, for eight months, in a seventeen-year-old boy—all reasonable.

True Diagnosis—A small pyogenic abscess at the lung base, obscured by heart shadow—drained with cure.

LABEL—Whooping Cough. Onset with characteristic cough, but persistent and intractable, and continuing intermittently for two years—regarded as post whooping cough effect.

True Diagnosis—Inhaled melon seed, based on the acceptance of the father's story that the child had been playing with melon seeds in bed at the time of onset. Death from prolonged recurrent fever. At autopsy the melon seed, with infection beyond, was confirmed.

LABEL—Spoiled Nervous Child. Called psychotic, and on tablets and psychiatric therapy.

True Diagnosis. Gross adenoid and tonsil obstruction, disturbing breathing at night, cured within days of tonsillectomy.

LABEL—Influenzal Headache and Senility. A terminal state in an old man 72 years of age, during an epidemic of influenza.

True Diagnosis. Based on a history of a minor knock on the head prior to onset, from which headache followed. A cerebral clot was removed with complete cure. The patient is alive and well, now aged 84 years.

In all these cases, and they can be multiplied a thousandfold, wrong diagnosis really represents a semantic pattern of prejudice which conforming to the original label, up to a point, is accepted.

In *Commonwealth of Australia v. Ockenden* in the High Court,[3] the labels used in the judgment are worthy of critical analysis for they reveal the confusion when the process is not taken into account. A man born in 1934 was admitted to the Naval Hospital in 1953 for a recently contracted disease not "related to his heart" and no reference to heart disease was then made. Twelve months later, 1954, severe aortic valve disease was observed, claimed to be due to rheumatic fever in younger life. If this be correct then the aortic valve disease must have been present in 1953—or it had developed since 1953—the latter is untenable in the light of left ventricular strain—an indication of prolonged aortic valve disease.

In the judgment the following passage appears:[4]

". . . the absence of any clinical signs of heart disease in January 1952 does not mean that the respondent was then free of heart disease nor does the fact that no signs of heart disease were observed upon his discharge from hospital carry the matter any further for, on that occasion, he was examined merely for the purpose of ascertaining whether the disease for which he had been treated had been cured.

Upon the evidence the learned county court judge found that by May 1954 'the aortic valves of the respondent's heart had reached a stage of inefficiency that blood was flowing back or eddying, and gave rise to a regurgitation and that this condition had placed an extra load on the heart muscle which has up to date resulted in only a slight enlargement of the left ventricle'. He was satisfied that the respondent's 'condition was due to rheumatic fever, possibly contracted in childhood prior to adolescence, or in early adolescence which' had damaged the aortic valve but did not affect the respondent's apparent well-being nor cause any dramatic physiological change. His Honour went on to say that 'eventually, some time, some weeks, and not more than six months prior to the examination by Surgeon-Commander Armstrong (on the medical evidence), the valves had reached a state of deterioration in which they failed to close and act as a valve, with the result that the blood tended to flow back or leak'."

The judgment completely overlooks the nature of the processes at work. When it is said "a process of slight valve inefficiency led to gradual progressive deterioration, so that finally

[3] (1958) 99 C.L.R. 215.
[4] ibid., pp. 220-1.

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a murmur becomes audible", this is an utterly impossible situation, and simply does not occur.

The pathological process of valve scarring produced by rheumatic fever creates the incompetence and simultaneously the murmur. A murmur having "become" audible does not mean the further valve deterioration has occurred, rather it simply means that it has now been noted. It only reflects that earlier examiners had not heard or recorded the murmur. It does not mean the inefficiency of the valve was slight at that time.

The statements by His Honour can only indicate that he was led to these conclusions by experts and labels seemed entirely to have replaced processes at work. Aortic incompetence or inefficiency is a long slow process and when it causes left ventricular strain, then the process has been active for years and years. There is no alternative explanation.

An understanding of the general continuous processes at work would have led to better and correct interpretation of the findings.

In the case of H.C.L. we have a man who suffered abdominal and thoracic pain a few months prior to his first so-called coronary attack. This was ascribed to ulcer (label 1). When the occlusion occurred it started with identical pain, and there could be little doubt that the original so-called ulcer—(never proven) pain was ischaemic in origin. After an absence of seven months from work he returned, only to find the condition recurred.

Terms used here such as "sudden coronary death" or "a prior attack of coronary type" need clarification, and the following comments seem pertinent.

1. It is unwise to make any generalization such as in this case "In *most* instances certain events happen" for in coronary occlusion, as indeed in so many where a general label is attached, each case is an individual problem.
2. When in fact a person had been active despite minor subjective chest pain (angina), and if, following an occlusion he finds work impossible, there could be three possible causes operating for his inability to work, two of which have nothing to do with the extent of damage by the occlusion:
   (a) He may from his occlusion onward, realise with a sense of fear, and for the first time, that his life is in jeopardy, and he therefore elects not to risk working, pain

or no pain. This may be encouraged by medical advice in which he believes. It in fact, may have little to do with the true functional incapacity.

(b) He may regard every attack of pain in the chest from his occlusion onward, as another occlusive episode, and therefore be incapacitated from fear.

(c) His heart, subsequent to an attack, may be a less efficient pump, and a degree of "pump failure" i.e. heart failure may incapacitate him.

The process here is a continuous one and indeed had little to do with his work. With the first coronary attack a natural deterioration set in until death. Peptic ulceration is a wrong and incorrect label and should not have entered the picture. Should a patient have been sufficiently reassured to return to work after his first occlusion, then a second occlusion may make him (a) more apprehensive (b), make him more sensitive to his attacks (c), or may produce more heart disability.

All factors played their part, here, and are part of the natural history of the disease. They may be present alone or one with the other, they may be independent of work. The influence of the second attack in relationship to the first would be mainly in the form of his reactive state and the process is natural and continuous from the onset.

In a disease as subjective as angina, it is impossible to determine when incapacity from an occlusion ceases, and when the natural processes take over. If the incident of a coronary attack is accepted as a liability, although only part of a natural process only chronologically related to work, then all subsequent attacks, although part of the same natural progress therefore must equally be accepted, and no further dissection will clarify.

No attacks could have occurred in the first place if the coronary arteries were normal, and a fortuitous incident such as site of occlusion (vital artery involving heart rhythm), accessibility to urgent intensive care therapy, judgment of the physician etc., could all equally determine recovery or death.

The Privy Council, I am informed, ruled that death or disability which was merely "the result of a continuous process over a period, there being no change in the man's condition at any one time", was never held to be injury by accident. However, let us recognize that there is rarely a clinical example in which there was "no change" in the man's condition at any one time— and all

this is simply a matter of semantics. You cannot have your cake and eat it.

Changes brought about by the varying experiences of life are almost inseparable from the day's routine, and environmental stress of, say, winning the Calcutta Sweepstake, will bring about many symptomatic subjective changes, and therefore a host of labels.

If death in such a case was acknowledged as part of a continuous process set up during work and therefore compensable, much of the rather forced argument would be resolved. The process being a continuous one, it is impossible to say, as has been said, that "where a coronary occlusion is followed by another, there is no connection if the interval is more than a few weeks". Such semantic contributions seem to overlook the continuous process going on so to speak behind one's back.

Cases abound where the continuous underlying process produces incidents from time to time which are each given labels. Such labels are dependent on preconceived ideas and provide much food for Medico-Legal controversy. In all such cases one will find and indeed should always look for, evidence of a continuous process, not a series of isolated episodes of symptomatic subjective nature.

Thus in the case of Joseph C., the patient was labelled "Recurrent Coronary Occlusion" yet his attacks were due to imbalance of heart muscle produced by the left ventricular strain of hypertension. Each attack was not an occlusion, but of pulmonary oedema. The process of deterioration was a natural one only mildly aggravated by work, and if anything, improved by moderate work. From his first attack in 1963 he presents a natural hazard of cardiac imbalance and pulmonary oedema, a condition which would allow certain activities but which would fail on excessive demand. He should therefore have been warned to limit his activities and his employers so informed. Instead, he was issued repeated independent certificates of occlusions—1962, '63, '64, and '65. The continuous underlying process was lost sight of. However, on the basis of the natural hazard presented, the claim was considerably modified and it was finally agreed that his death was the result of a process of left ventricular imbalance which started in 1962.

The patient who, having slipped from an engine rigging, labelled "pulled muscle" died four days later from the continuous process set up, from the pain onward. The so-called "pulled torn

inter-costal muscle" should not have been considered in the light of his subsequent death—a classical coronary starting without severe shock therefore under-estimated.

The patient with *severe hypertension,* whose breathlessness was ascribed to nasal polyp—dies a few days after nasal operation. The interpretation of this symptom of breathlessness due to polyp was incorrect and he died a cardiac death following the stress of operation. The polyp was of secondary significance and the decision to operate and timing of operation really set up circumstances which caused his death.

The validity of trauma as a cause of generalized arthritis presents a constant source of legal argument, but when in a given case, a clear factual account of high fever and gross tonsil infection was obtained, indicating an infective cause for the arthritis, and therefore descriptively called "infective" arthritis the case was adjourned because "infective arthritis" was a "new" term and did not appear earlier in the interrogatories.

The problem of process was "legally" insignificant, but the label remained the major point of argument.

Toxic psychosis was the label used on a patient who, years prior to the work, had been given E.C.T. therapy, and had been a heavy drinker. That he was psychotic was clear, but that because of his earlier experience, it was due to other than his work was equally clear. Argument was created only because of the label "toxic psychosis", not because of the acceptance of a continuous process based on environmental issues and beginning well before his association with toxic materials at work.

The case of R.R. presents an interesting challenge. He presents suffering gross emphysema, as shown by cor pulmonale—i.e., heart effects of lung disease. It should be clear that when the heart is so involved in lung disease, the patient is living on a "knife edge" balance of oxygenization, and a minor episode of reduced lung capacity will trigger off a major catastrophe. A small temperature, demanding as it does an increased metabolism and therefore oxygen, indeed disturbs the *critical* balance, so that he could change from apparent health to extreme ill-health in a matter of days. His unrousableness twelve hours from onset was due to cerebral anoxia. The natural hazard of the effect of a fever, and disturbance derived from it, can hardly be attributed to his work. He continued working three to four days after the onset, and his capacity for work became less and less, yet it was an economic necessity that caused him to continue.

Death Certificate Labels were—

Aspiration Pneumonia	60 hours
Influenza	5 days
Cor Pulmonale	years
Chronic Bronchitis	years
Emphysema	years

These do not convey a great deal when we remember he was working until five days before death, and indeed some days after the onset. The question of critical value reaching a point of breakdown must be considered.

Where an underlying process is obscure, labels are readily used. This creates a useful descriptive semantic tag, but little else. Meniere's Disease, migraine, various pain conditions localized over some visceral area, bronchitis in the old (often of heart origin), arthritis—given to any pain near a joint.

All the above are carefully selected labels, too often taken out of context, and given the stamp of authenticity when applied by the expert.

Can a patient suffer from a condition which is only a description of symptoms? A patient will accept what he is told yet more often than not he is only accepting a piece of semantic trickery. In not one instance in the above series would the label given be of the slightest assistance. Only the explanation of an underlying process should satisfy our critical needs. The label itself, more often terrifies than assists, and more frequently confuses than clarifies.

All this reveals that language is so much part of us that we passionately resist all pressures to change it. When we cannot always understand or describe or convey an idea with precision, we cloud it with some title. Yet the word spoken or written has tremendous power, strength, continuity and indeed permanence.

It is within the power of language to blight a life, for the physician, by the use of half correct labels, gives a pseudo impression of an awareness of causation, implying something to the patient of a much more foreboding nature than is realised.

Use the *word* "angina" and the well adapted patient awaits sudden death at any moment, "cancer" though operable, and the patient envisages a progressive hopeless condition, "arthritis" and the wheel-chair is already there.

Such is the power of speech that a word of communication in many ways is the most potent purveyor of illness that we possess.

It is all-embracing, often overwhelming, contagious and very devastating.

When Othello, agonisingly proclaimed—

"Reputation, Reputation, Reputation, I have lost the most immortal part of me", he was already suffering the effects of words upon his very being—and indeed finally he succumbed to their effect. Yet while he may have had a claim against Iago for libel, or what you will, in no sense would the effect of all this as a fatal illness have been considered—or would it? I leave this to our learned brethren to think on.

And what of Lear's hate, or Caesar's ambition?—the true hazard of his life—"For his ambition I slew him". If ambition was the proximate cause of his death, is it an illness? Should it be labelled? Was his wife able to claim compensation?

At most the label contributes but one facet of reaction, and in many argued Medico-Legal cases, like the "Flowers that bloom in the spring" has nothing to do with the case.

It is for our Professions in their common search for Truth, to accept the inevitable position that only inter-relationships truly exist, and that truth must therefore be relative and never absolute, that the clinical responses resulting from identical stimuli vary with previous experience etc., that it behoves us to look to the soil as well as the seed, and that in the interpretation of disease, there will always remain the personal experience of the effects of strikes, wars, heat, cold, emotions, happiness, etc.

Said Lawrence Henderson—"The medical sciences have suffered and will continue to suffer from the fallacy of thinking of phenomena as simple in cause, as single in effect, and that there is a clear straight path to action".

Lester King, taking a higher, more distant view point, speaks of medical thought over the centuries, and how the physician grasps a truth only to find he has later to change his mind. "This absence of finality in medicine only highlights the view that ideas keep changing and that firm beliefs after a period will eventually crumble".

This is a sobering thought, and if it is thought that surely we are exaggerating the philosophical and historic as against the factual then let me finally quote from the most authoritative reference book on standard biological measurement written—a book composed by experts in each field. The comment I believe, clinches my argument—

Says the Editor in the Preface of Geigy's Standards:

"The rapid advances being made in knowledge in the biological and medical field of living material, make it inevitable that a publication of this nature is in some respects out of date before it appears in the press."

A frank admission that we poor miserable humans cannot keep up with so-called advances even in the field of so-called standard measurement. What hope then have we in assessing the variations from normal, created by the multiple interweaving factors of life?

How right was Galen, unhampered by measurements, when he said—"In the endless variety of the same disease, the sick differ from one another".

In the endless use of medical labels, the sick are made identical with one another and this is a retrograde step.

Let me make a plea—

1. No label should bear the stamp of infallibility.
2. No label should be argued in its separate right and taken out of context.
3. For the proper interpretation of disease states, let us always keep in mind the idea of a continuous process. Any argument used must account for this.
4. Let us always be aware of "critical values in balance" rather than absolute terms.

May I end on a lighter vein, but pertinent to our comments. Verbalization of nouns is now an accepted practice and when on cross examination, the poor unfortunate timid witness was being questioned by the opposing barrister, she was excessively hammered on whether she had been subjected to X-ray examination.

"But surely" said the attacking advocate—

"You have been X-rayed for this?"

and back came the reply—

"No Sir, but I have been Ultra Violated!"

Words, Words . . . .

Discussion

SIR PHILIP PHILLIPS, Q.C.: There is a good case for saying that medico-legal societies were invented so that doctors and lawyers could go on misunderstanding the word "cause", and it has provided me with delight and amusement for thirty years that we do not get any nearer understanding what we each mean by

that word, but we each get a lot of satisfaction criticising the other profession for its misuse. There is no ultimate resolution of this problem. Neither of us will voluntarily surrender our use of the word "cause" and adopt the other profession's use of it. So year after year we point out how stupid the other profession is and we feel in this way we have created an understanding of the two professions for the delight of which this kind of organization exists. There is nothing very novel in this discovery.

The difficulty is that each profession has to use this word for its own purposes and it is extremely difficult for it to abandon its own use and adopt the use of the other profession when it is required to do so. This is made worse still by the Workers' Compensation Act because the Parliament selected the form of words to describe a selected causal connection and then it began with a fairly complicated and restricted causal connection, injury by accident arising out of and in the course of employment. This is a complicated conception of cause, it was not a medical one, but even for lawyers it was a fairly complicated conception because the expression "arising out of" seemed to have what one might call a direct causal significance, a temporal significance, and the two were added together. So this made the causal connection in itself complicated and the matter—I use a neutral term—that had to be introduced into the causal connection was injury by accident, and that seemed to have a dramatic as well as a physical connection—dramatic in that it was an injury by accident in that it was not purposed or intended. Here was a pretty complicated causal connection, it was a dramatic event not purposive, but accidental related to the word and identified with it temporarily in terms of time.

It is pretty clear that none of these characteristics had any necessary parallel in medical thinking and the way was open for just the kind of complaints that Dr. Davis has been putting before us. Doctors maintaining the habits of mind necessary for the purpose of diagnosis and treatment carried over the mental processes they were accustomed to utilizing for diagnosis and treatment into an endeavour to describe and explain a highly artificial and complicated formula which Parliament had, for better or worse, described as the basis for compensation—accidental injury arising out of and in the course of work.

It was almost certain of course that the two professions would find great difficulty in reconciling their conceptions of cause with each of them, as they were using the conception for an entirely

different purpose. Then it was made worse by the fact that Parliament began to complicate its already complicated conception. It split the causal relation of "arising out of", from the temporal relation to "in the course of", so that doctors were now asked to say whether an injury was caused by the work and/or whether it occurred in the work. They were told that they must remember those are two separate things, for better or worse. Some logical difference might be given to the two conceptions.

Then finding that this extension of the field of compensation was not wide enough, parliament began to complicate that still further by adding the conception of aggravation of something which had occurred neither caused by the work nor in the course of it. You must not altogether blame the lawyers for all this, because Parliament really invented it, complicated it, amended it and changed it from time to time.

What we do forget in this Society is that so far as compensation is concerned Parliament had to define some situation which would be compensable, and this meant words. Parliament had somehow to set down some form of expression which judges had to determine in the light of medical evidence. You could not say "Oh well, if a person becomes incapacitated or dies ask the medical profession whether he or they think that that person or his dependants should be compensated", and allow them to apply the medical conception of cause to determine whether a person should be compensated. It may be that would not have been a bad way to allow the law to go, and say compensation shall be paid for incapacity or death whenever in view of the medical profession's findings the sufferer or his dependants should be compensated.

The alternative is that Parliament has said it will define when the person will be compensated by a very complicated and elaborate definition of causal connection. We know it has nothing to do with medical processes of thought, or medical habits of diagnosis or treatment; it is a highly artificial and elaborately formulated causal connection.

Then of course the extreme difficulty is that the judge can only answer this question by asking a doctor "is the incapacity or death causally related to the work in the way in which Parliament has set out this causal connection?" The more skilful the doctor the more natural it is to say "I never think like that and I object very strongly to being asked." The judge then says "I have to think like that, will you help me? I have to answer that ques-

tion and I am more likely to answer it well if you try and penetrate to this complicated conception of cause which is, so far as your processes of diagnosis and treatment are concerned, quite illogical and nonsensical, but you must try".

From time to time in this Society there is caused a mild explosion by lawyers saying "Why can't the doctors give up the processes of medical thought and answer this legal question." The doctors say "Why have we got to answer such a nonsensical question which has nothing to do with our business". There is no ultimate resolution of this question, and this has been said in this Society before, and I think I am a little bit critical of Dr. Davis about this. Very highly skilled doctors such as he is can do something by saying to themselves "What is the legal conception of causal relation which I am asked to consider", not "What do I think is the medical significance of utilising the methods I employ in diagnosis and treatment—what, knowing what I do of the medical situation, is the answer to this highly complicated and, if you like, artificial and arbitrarily determined relationship which the law requires."

Really, medico-legal discussions on this subject will become valuable if they persuade the lawyers that they are asking a question of doctors which is legitimate but from the doctor's point of view remote, illogical and unimportant—but which the lawyers have to ask and which a judge has to determine. At the same time in a Society like this it is useful if the doctors can persuade themselves that they have got to help to answer a question which is entirely foreign to all their logical habits of mind, but it is a question which the judge has got to answer and which they ought to assist him to answer.