STRESS AND PSYCHIATRIC ILLNESS

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We all, no doubt, accept the principle that amends should be made to one who suffers from another's negligence and that suffering can be psychological as well as physical and that principle is rooted in our common morality. Surprisingly it was Bismarck, of all people, who translated the principle into law and not until near the end of the last century.

The Weekly Law Reports of 21st May, 1982, describing the McLoughlin appeal, provided an appropriate starting point for a study of this proposition, particularly since it contained new developments: duty of care at a distance; fine points about negligence; differentiation between grief and depression and so on. But that is the legal side. I will confine my attention to the other side—the psychiatric side—and examine the "shock"[1] or "psychological stress" aspect.

To summarise the story, the McLoughlin appeal was heard by Lords Wilberforce, Edmund-Davies, Russell of Killowen, Scarman and Bridge of Harwich. In 1973 the plaintiff's husband and children were involved in a road accident when their car was in collision with a lorry which had itself been involved in a collision with another articulated lorry. The plaintiff was at home two miles away and was told of the accident by a neighbour two hours later. On arrival at the hospital she learned that her younger daughter had been killed and she saw the serious injuries her husband and other children had sustained. Three years later, in 1976, she began an action pleading shock and injury *to herself* which had, she claimed, resulted in depression and personality change materially affecting her life. Liability for death of her daughter and for injuries to the family were admitted but shock and injury to her, due to negligence, had been denied in the lower courts. In this appeal the word "shock" was used extensively and as Lord Bridge said: "somewhat quaintly". In medicine the word "shock" has assumed precision. It came to medicine from lay usage and inevitably therefore there are different nuances of meaning, indeed, fundamental differences and even quite different etymology.

Surgeons and physicians have attained precision by limiting their use of the word. They use it to mean a syndrome which accompanies a change in the distribution of blood and blood fractions; changes within and outside the body. The syndrome consists of pallor, sweating, low blood pressure, high pulse rate and sometimes death. These various symptoms have the function of adjusting the organism to the altered fluid distribution—sometimes unsuccessfully. The term is also extended to psychological as well as physical shock and there can be close similarities with the acute physical syndrome. In "vasovagal shock" a sudden drop in blood pressure consequent upon a changed heart rate and vasodilatation may occur with loss of consciousness in the person who faints on hearing unpleasant news; or the guardsman who faints when his inoculation is about to be performed. What should be explained is that both of these states, the fluid loss and the vasovagal shock, are acute states. What we are concerned with here and in many others where shock and psychological stress are claimed is a putative relationship between psychologically unpleasant experiences and persisting ill health quite unrelated to changes in fluid balance. In these latter instances I will in fact talk of stress, not shock. Firstly because that is the term commonly used in the psychiatric literature, and second because doing so makes some distinction between the acute states of medical shock and the matters I am talking about. I realise that in legal literature the word shock, probably for good historical reasons, is used extensively with both meanings.

Much psychiatric interest has been shown in this question of stress and illness over the last fifteen years and I will go into the background briefly. Everyone knows, or thinks they know, that an unpleasant experience can lead to nervous symptoms and to a subsequent change of behaviour: "Granny has never been the same since she saw something nasty in the woodshed". The proposition that unpleasant experiences can lead to radical and long-lasting changes in behaviour, is axiomatic in our folklore. I might add that it is axiomatic in psychiatric folklore too, so it may come as a surprise to learn that proof of the proposition, at least by scientific criteria, has been extraordinarily difficult. But, at least until fifteen years ago, the proposition was quite unproven by scientific criteria.

Of course there is "more than one way of skinning a cat" and I do not suggest that scientific proof should be the sole criterion on which this question is settled. The fact that psychiatrists have been so tenacious of the idea might mean something. The fact that the idea is axiomatic in literary thinking and that it rings true in everyday experience so that we feel intuitively that it is right, means a great deal. It may be that science rather than the axiom is at fault. At least until

recently that was where we were and the scientist using his scientific criteria was obliged to conclude that the proposition that stress leads to psychiatric illness was unproven. The ground could be cut from under his feet, as some have done, by claiming that the social sciences, the so-called soft sciences which would I think include psychiatry, are not sciences at all and are not susceptible to scientific method since their phenomena are so complex that rarely can variables be controlled as they are in the hard sciences. That point of view is currently unfashionable but not necessarily wrong.

To return to the question of stress and assuming for the present that a scientific approach is reasonable, I'll take up the story again. Holmes and Rahe, an older experienced physician and a young American psychiatrist, fifteen years ago put forward the simple proposition that what was stressful for one was generally stressful for all and that most people responded to stress in a similar way. Maybe their ideas were not so startling; lots of people probably had the same thought before but the heuristic value of their approach was that it allowed them to quantify stress; they could measure it. They went about this by canvassing a variety of people, using appropriate epidemiological techniques, and asked them what, in ordinary life, caused most stress to them. They derived a reasonably consistent list of stress-inducing events in a similar sort of hierarchy. Others did similar surveys and came to similar conclusions about what was most stressful. The events that people rate as highly disturbing are interpersonal, particularly those involving disruption of a close bond, e.g. death of a spouse, a child leaving home, loss of a parent. Commonsense tells us that unpleasant events are more stressful than pleasant ones and that proposition was supported. There was also general agreement about what was pleasant and what unpleasant but that is not the whole answer. It seems that life change in itself, as well as unpleasant change, may also be stressful. That is not new either. Hippocrates maintained that it is changes which are responsible for disease, especially the violent ones. The individual is, of course, not unimportant and normal people differ in their reaction to stress to some degree. So the fairly simple Holmes and Rahe propositions have been developed and elaborated. Scales have been constructed and tested. Stress has been measured by them and classified as being of greater or lesser importance in causing symptoms in a variety of intervening variables: age, ethnicity, social class, marital status, other supports, and so on. Currently the two competing scales, life event scales as they are called, differ in some respects. One rates all events; the other rates pleasant and unpleasant events separately and gives a higher weighting to the unpleasant. Other propositions have been us-

ed to try to simplify this data. The concept of exits and entrances into the social field shows that exits from the social field are more stressful than entrances. Physical illness, while undoubtedly stressful, is not as stressful as interpersonal catastrophes. Of course there are problems: a substantial one is that people are not exactly alike. I have said that different personalities differ in their response to stress. The cognitive component of this is that people think about stress differently and make adjustments to stress in different ways, but not radically different ways, so that individual differences are superimposed on major similarities like small waves on big ones. There is consistency across countries, e.g. between America, Europe and Japan, *providing similar social classes are chosen*. Within countries such as the United States there are great differences between ethnic groups—Negro, American Indian and Caucasian. Possibly results of stress differ to the greatest extent when low social class is combined with ethnic differences. But those general rules I have mentioned already about exits and entrances and interpersonal bonds hold true even in widely different ethnic groups.

There is also the real if surprising possibility that stress may lead not only to psychological illness but directly to physical illness. Indeed Holmes and Rahe started this work in relation to physical illness (tuberculosis), not to psychiatric illness, examining the relationship between stress and relapse in tuberculosis. This is not so far-fetched as may appear at first. Stress can be understood, reductionistically, as acting by influencing hormones, which in turn can alter immune mechanisms and other subtle physiological balances. Despite this it may still come as a surprise that the survivor of a bereavement is himself more likely than chance to present with a physical illness within six months following their bereavement and they show a forty per cent increase in their own mortality when compared with control populations.

As one might expect, recent events are more important than distant ones and when this is quantified six months seems to be the time after which stress ceases to be cumulative, although once its effects have been induced the consequences can last much longer than six months.

It is widely believed anecdotally, that an individual can tolerate a certain amount of stress with equanimity but after a certain level has been reached he begins to react adversely, even to minor events. This is the so-called threshold phenomenon and recent research supports this proposition. The likelihood of developing an abnormal stress response appears to be more common with chronic than with acute illness and is more common amongst those in hospital than those out-

side hospital. It is more relevant to a neurotic illness such as depression and anxiety than to psychoses, e.g. manic depressive illness and schizophrenia.

It may also be that stress alters the conditions under which a person is prepared to seek treatment. In other words, it seems to influence whether a person lives with his illness, denies it to himself or seeks to cure it, and of course this fact may be highly relevant to industrial and motor accidents where the relevant event may simply have caused the person to present rather than influencing the process itself.

But in case this seems too easy I should mention a methodological problem. The most important consideration in this area and one of equal relevance to lawyer and psychiatrist, is the question of retrospective data. In most of these studies and in psychiatry generally, the psychiatrist, usually, can only look back at events. When this is done inevitably both he and the patient apply a process of selection. They choose to select some data and reject others, and the potential for error in this type of analysis is of course obvious. If we look for causes, as we tend to do, we find them. A few prospective studies have been done. These overcome the retrospective data problem and, put statistically, in psychiatric states in general life events account for about ten per cent of the variance amongst aetiological factors—only a modest amount you might feel.

So far I have talked about the conditions of everyday life under which people may be influenced by stress. But there have also been a series of studies of natural and man-made catastrophes. In January, 1977, a commuter train became derailed near Granville, N.S.W., hit the supports of an overhead bridge, brought it down, and eighty-three people died. People did not behave quite as one might expect. Boman has reported some of his findings and in his words,

> Many passengers from the rear of the train came forward to see what had happened and calmly walked past the crushed and torn open carriages, showing little if any response. A bank manager looked back from the front of the carriage and, seeing many blood-stained and injured people, his initial thoughts were, he said, that he would not be able to appear at work if his clothes became similarly bloodstained, torn and dirty. Many onlookers gathered. They, too, appeared unshaken and chattered animatedly. Several photographers were seen. Initially the outstanding aspect seemed to be a lack of involvement. Later, things were different. Those who had escaped and sometimes onlookers and helpers started to cry uncontrollably. They felt fearful. Being united with their family often precipitated this change. Over the next few days the unin-

jured made a superficial adjustment and again became detached but were unwilling to discuss their experiences, a phenomenon reminiscent of accounts of First World War soldiers and of Japanese P.O.Ws in the last war upon their release. A fear of train travel was universal. For many weeks after the accident the train leaving the Blue Mountain stations at the same time as the fatal one was almost deserted. Guilt was experienced by survivors about their own behaviour; often unjustifiably. They felt they should have done more and these fears were associated with anger.

In a minority this morbidity continues even now. Their symptoms now still include anxiety, depression, poor concentration, irritability, headache, gastro-intestinal disturbance, impotence and sometimes hysterical symptoms. Absenteeism from work was common. I am sure those involved in workers' compensation will recognise the syndrome the chronic sufferers show all too clearly. This is not medical shock but a new syndrome not covered by the earlier definitions of shock which I have mentioned. It is loosely called post-accident syndrome. The point I want to make is that acute severe psychological stress of this sort leads to rather strange behaviour but here too, there may be underlying rules. Initially detachment is common and heroic acts can be performed; then depression occurs; then psychological readjustment is seen which may be pathological: shutting off or acceptance of new ideas—for example, that an accident with major consequences can indeed occur to that individual, and might occur again. A minority cannot adjust and develop neurotic symptoms. There are similar findings for many other major disasters and recently from the Victorian bushfires. We, as a hospital, have been involved to some degree and have seen victims in their homes. Initially, there was fear mixed with normal behaviour, when people did extraordinarily brave things. This was followed again by a period of numbness and detachment, sometimes with very odd behaviour. One man who had lost all his stock insisted on driving across Melbourne to Daylesford to collect a load of hay although he had no use for it. An initial stage of activity was usually followed by depression. The depression would be expected to resolve in about six months but probably some will not do so.

Turning to the cumulative effect of overwhelming stress perhaps the so-called "shell-shock" after World War I becomes more understandable now as a chronic severe stress response. In the Second World War a clear correlation was demonstrated between the extent of combat stress and the number of casualties. The more of one group that was lost the greater propensity for neurosis in the survivors. Within Bomber Command in World War II, so-called "flying

stress" was related directly to the number of losses sustained during flying operations by that squadron. The symptoms may be long-lasting. In one study seventy per cent of soldiers diagnosed as having an acute traumatic reaction during World War II still had their symptoms seventeen years later. There are other examples. Concentration camp survivors have been studied in Norway and Denmark and they seem particularly prone to neurotic symptoms, and in particular to a lack of drive. In a Danish study seventy-eight per cent had neurotic symptoms on release from concentration camps and two and a half years later forty-four per cent were still affected. Interestingly there was a similarly high incidence of emotional disturbance in children after release from camps and, even more surprisingly, in children born to survivors after release. About half the crew of the U.S.S. Pueblo, captured by North Koreans in 1968, had significant symptoms of anxiety and depression when they were repatriated. Investigations of a group of I.R.A. suspects compulsorily detained in prison showed that all had developed severe and worsening neurotic and psychosomatic symptoms on discharge.

Of course, we rarely know whether those who present had some special disposition to stress or some disposition to maintain their symptoms once they had occurred. This proposition, a disposition to neurosis, was in fact popular during the last war when Simon, an influential figure in British Medicine at that time, used the term "low moral fibre" to designate flying neurosis, an attitude in marked contrast to the thinking of the 1960s and 70s which emphasised the environmental rather than the innate component in these states. Now we seem to be returning to a balance between these two ideas.

It seems therefore that those persons subjected to acute psychiatric stress undergo a fairly stereotyped response to this stress and then mostly they adjust. But some do not and their symptoms may persist indefinitely. This group, those who do not get better, need further study.

There are many areas unexplained, the most notable for those working in the workers' compensation area is why workers should develop persisting anxiety, depression and various other physical symptoms after quite a minor accident. Indeed these very people may have undergone repeated surgery, sometimes of a major sort, with negligible consequences. The answer sometimes seems to be that the meaning of the event for the individual is important. Whether he is prepared for it in a psychological sense is also relevant, but also important are the other stresses acting on him at that time and sometimes these may be much more relevant than the accident for which a claim is being made.

To bring some of this data together I will speculate about Mrs McLoughlin and tell you the things I would have looked for had I been asked to see her. I would want to know her prior psychiatric history, if any. In this appeal it was accepted that she was psychologically normal, in itself a statistical concept when we are dealing with personality change and neurosis but there was no "thin skull" argument presented. As a psychiatrist I would, of course, have to satisfy myself about that. Indeed this may be particularly important since it was acknowledged that she had an "organic depression", no doubt to distinguish her state from grief, but this term usually implies some disposition of a physical nature. I would also want to know what other stresses were operative prior to the accident and when, bearing in mind that six months seems to be a time after which their effect wanes. It would in fact be nice to quantify these and see how near some hypothetical threshold level she was before the accident. Similarly stress after the accident could be measured and this would include other secondary consequences, relationships, financial aspects, work. I would also have to take into account the stress of the hearing itself, and the setbacks from her point of view which occurred at each stage. Some of these stresses would be the direct result of the accident but some would not. I would like to know more about her personality even if this were normal since it is likely, though so far unproven by formal tests, that persons with an obsessional personality who have difficulty in adjusting to changes are more susceptible to stresses of this sort. Further, while depression may be a compensable affliction in this context, normal grief is not. But psychiatrically we have great difficulty in separating normal from abnormal grief and each from depression. There is another consideration, namely that the litigation process may not only be a stress itself but it may induce a change in thinking whereby the litigant allies herself with those taking her side in such a way that he or she becomes caught up in the adversary process. She comes to see herself as a participant in a battle, where the event which happened to her and her symptoms are being used to an end, that end being her victory. If Mrs McLoughlin were sophisticated, as she probably was, she would also accept the rules to the game, the most important being truth in matters of fact. But of course if she happened to be unsophisticated and of another culture she may not be so adept at separating fact from inference. Indeed, she might even hold the strong conviction, understandably enough, that she has a right to be compensated because life has been hard on her.

From a psychiatric point of view these recent studies of stress raise some nice questions and in the last minute or two I will risk boring you with them because they illuminate our psychiatric problems.

Cartesian dualism freed medicine from considerations of mind and thereby allowed eighteenth and nineteenth century physicians to make enormous advances. An understanding of physical causality became sufficient to explain physical illness. Unfortunately things did not work like that for psychiatry. Rarely can we adopt a similar line of thought. Rarely indeed can we explain psychiatric illness purely in terms of physical causality. Griesinger, last century, said "Mind diseases are brain disease" but unfortunately that is so reductionistic that it has not yet helped us very much. We can of course go to the other extreme and think only in terms of mind but that doesn't work very well either, although there were strenuous attempts to espouse this view during the last decade or two. There is just more to psychiatric illness than is dreamt of in that philosophy, to paraphrase Hamlet. Now we have to take physical, environmental and psychological factors into account and try and understand the patient according to three separate sets of rules: those governing psychodynamics; those governing pathology; and those governing environmental pressures—stress—and that is difficult but maybe that is the nature of knowledge. Perhaps the closer we look at any problem the less likely we are to be able to give simple answers to it.

Perhaps the gain which has come from recent work on stress gives us a new set of rules to apply to this third set of influences, environmental stress, which interact with the others of body and mind.

REFERENCE

[1] "Shock" is used in three literary, non-medical senses:

(a) shock of corn, meaning a pile of sheaves. It was common in the fifteenth century and it comes from Middle and High German and earlier;

(b) shock troops, from the old French it comes from a class of armed forces and was a seventeenth century word;

(c) shock of hair, is Shakespearian and of unknown origin, although the analogy with corn seems fairly obvious.