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Validity of Psychotraumatic Reactions

The psychiatrist who is called upon to provide an expert court opinion in cases of personal injury or workmen's compensation certainly may expect to be asked, "What is a posttraumatic psychiatric reaction?" There are many designations for this reaction, including the historically classic traumatic neurosis first described by Oppenheim [*1*], who regarded organic aspects as important in the origin of the condition; accident and industrial neurosis; stress reactions; compensation neurosis; or neuroses following trauma [*2*]. There is also the post-accident anxiety syndrome of Modline [*3*]. A larger list of designations for posttraumatic psychiatric states has been presented by Culpan and Taylor [*4*]. Keiser [*5*] wrote an excellent review of the earlier history of this condition. For reasons which will be presented in a subsequent paper, I have used the term "post-traumatic neurotic reaction" to characterize psychiatric sequelae to injury. The psychiatrist asked to respond to the above question has the additional burden of explanation posed by the absence of any specific designation for this condition in the *Diagnostic and Statistical Manual* of the American Psychiatric Association [*6*], although the concept has been honored in many books and papers and certainly is part of the working diagnosis catalog of the psychiatrist (and physician and surgeon) concerned with this area of medicine. The *American Handbook of Psychiatry* [*7*], an important reference, includes a section of neuroses following trauma. Keiser [*5*] presents 299 references in his book; my references are somewhat more extensive, numbering 2500, including the German literature.

However the condition is designated, there is a considerable number of psychiatrists, physicians, and surgeons who, when asked to submit a report after examination of an injured person, may recognize and include an aspect of that person's reaction to injury not determined by physical, "organic," factors. Very often this reference is to a "functional" factor, comprising part of the total symptom picture. That such psychiatric reactions occur in large groups exposed to the same trauma, thus crossing various lines of character formation and where the cultural factor is relatively uniform, is illustrated by the important study of the victims of the February, 1972 Buffalo Creek disaster [*8*] indicating that 90% of the victims had disabling psychiatric symptoms more than 2 years after the disaster. Further, the authors indicated the possible chronic nature of these reactions despite the apparent early subsidence of symptoms, hardly compatible with the diagnostic category of transient situational disturbances [*6*] suggested as commonly applicable to posttraumatic reactions. The long-term nature of posttraumatic reactions was reported also by Leopold and Dillon [*9*] who, incidentally, suggested that "post-traumatic psychological states should be considered diagnostic categories in themselves." Their study pointed out that the men affected by the trauma all had dissimilar backgrounds although they all were confronted with the same disaster; this suggests that it

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was the disaster, not the pre-disaster personality makeup, that accounted for the observed reactions.

Very frequently, lawyers and some psychiatrists ascribe to influences other than the injuring or stressful event the determination of the posttraumatic symptoms, including among these influences greed, litigation itself, distaste for one's job, and various patterns of malingering. Out of the impression that avarice plays the dominant role in bringing about these symptoms has emerged the rather opprobrious "compensation neurosis." Robitscher [*10*] has gone so far as to classify this as one of the reactive categories to injury. It was the aim of my study to eliminate extrinsic factors, particularly compensation and litigation, to discern whether the posttraumatic reactions occurred independently of those factors.

Although from the scientific point of view the question of cause of these posttraumatic states, at least proximate cause, would appear to have been answered, the persistence of legal doubt, particularly in those cases with built-in litigation involvement such as workmen's compensation and personal injury cases, required approaching the question of cause in such a way as to eliminate as much as possible considerations of financial gain, influence of lawyers, and stress of litigation. In California, where I have had experience in evaluating injured persons, the adversary process, as in general throughout the United States, is regarded as the truth-finding procedure of choice; this procedure is employed in resolving the claims of injured persons. It was therefore important to reduce or exclude the effects of this adversary process in trying to understand the origin and development of the posttraumatic reactions.

It is quite difficult to ascertain the precise effect that compensation has on the injured recipient. There is, for example, the harsh finality apparently established by the courts in England ("it is accepted by all concerned that the settlement of the claim is very likely to lead to complete resolution of the neurosis") [*11*], which indicates there is little point to further investigation of the posttraumatic psychiatric reaction considered to be bound inextricably to the anticipated settlement award.

Ellard [*12*] points out the importance of social factors in "being sick" and, particularly, the need for the physician to consider "the numerous determinants of his own professional attitudes and perceptions" as well as those of the patient. Indeed, one may wonder whether the compensation problem may arouse intense feelings in the physician and lawyer thus, perhaps, being a greater problem for the physician and lawyer than for the injured person. For example, Hollender [*13*] wonders whether the "Compensation Board, in leaning over so much in the direction of the person seeking compensation, is really being good, or is it helping to make invalids?" Further, he expresses with scientific looseness, "we know ... as a general rule ... people who wind up in this compensation game ... are removed from any prospect of good psychotherapy," as if he were suggesting a greater possibility of doing "good psychotherapy" with persons not receiving any sustaining income. Martin [*14*] has adverted to the attitudes engendered by individuals considered to be freeloaders, including social hostility and, on the part of physicians, "therapeutic nihilism." There have been several contributions pointing to compensation as extending and reinforcing disability, such as one paper by Cole [*15*] and another by Tracy [*16*]. Other papers have indicated that disability programs, including workmen's compensation, sanction the "Illness Process" [*17*] and may, indeed, hurt the sick and injured by forming an active dependency syndrome [*18*].

Maurice Martin [*19*] addresses the problem at a deeper level, suggesting that symptoms presented by the injured may reflect a more complex origin than the superficially attractive explanation of money. He further points out that traumatic neuroses may occur after accidents for which there is no compensation. This is a point with which I concur and which is the heart of my study project. Allodi [*20*], in his study of accident neurosis,

made no mention of compensation as a factor in bringing about his findings that 96% of injured persons in his study were diagnosed as suffering from an accident neurosis. (I am somewhat uncomfortable with the term accident neurosis, since it appears to bypass those conditions caused by emotional stress and strain, other than accidents, which produce psychiatric symptom profiles identical to that following accidents.) Allodi [*20*] was impressed that 76% of his sample presented hysteric symptoms. Although Culpan and Taylor [*4*] made every effort to dignify the term compensation neurosis, it is of interest that the psychiatrists in their study placed this term under hysterical neurosis. Carter [*21*] gives us all a gentle admonition that we should devote extra time to evaluation rather than surrender to attitudes of annoyance and resentment in dealing with these problems that, indeed, occupy the gray area between the clearly organic-physiological and the functional. It is towards this end of further evaluation rather than judgment, polemics, and contention that this study is directed.

The Project and Results

In looking about for appropriate and suitable conditions for this project, I was fortunate in having had the opportunity to meet, several years ago, some of the physicians at the Feldkirch Accident Hospital (Unfallkrankenhaus) in Austria. To my knowledge, Austria has a unique and excellent system for dealing with accidents through a chain of accident hospitals. In fact there is a specialty in traumatologic surgery, which includes training in orthopedics, neurosurgery, abdominal injuries, burns, and plastic surgery. After introductory correspondence and the presentation of the research plan, I received permission from an agency of the Austrian Government and, particularly, permission from the head surgeon of the Feldkirch Accident Hosptial, Dr. Emil Beck, to proceed. Without the help and interest of Dr. Beck, an excellent surgeon and inquisitive scientist, it would not have been possible to undertake this investigation.

My plan was to conduct a parallel study between the psychiatric reaction to ski-related and work-related injuries. Austria, being a social-democratic nation, provides disability payment and medical care for the first 6 months after a disabling injury, regardless of cause. Further, the disability is not the product of litigation but depends on medical opinion. There is no reckoning of lump-sum damages award, but payment is provided on a weekly, sustaining basis determined by need. After the 6-month period described above, the work-injured person, if he is declared by his physician (usually the family physician) to have a permanent disability, receives as a pension 80% of pre-injury earnings, whereas the non-work-related permanent disability receives 10% of pre-injury earnings. However, through a complex overlapping of various government insuring agencies, the sustaining payments are much closer to equal for both work and non-work-related disabilities. At any rate, on the basis of my impression as well as from information given to me by other physicians and hospital statistics, about 82% of the injured were back at work or in a rehabilitation program within 6 months after injury.

The Feldkirch Accident Hospital opened its doors in 1972. It is staffed by rather young physicians with career interest in remaining either at this hospital or at another accident hospital. This continuity of staff provides considerable stability to serve as background for a research project. The hospital is situated virtually at the juncture of Switzerland, Liechtenstein, and Austria. These three countries provide some of the most attractive ski areas in the world, especially the famous Arlberg of Austria. The surgeons at the Feldkirch Accident Hospital, therefore, have had a most unusually rich experience in dealing with ski-related injuries, and their expertise has resulted in a heavy referral inflow of such problems, particularly during winter and spring months. While the hospital was originally constructed to treat workers' injuries, the proportion of ski-related

injuries now exceeds that of work-related injuries. The area around Feldkirch is moderately industrialized, and the number and variety of the industrially injured is sufficient to constitute an adequate sample for study.

Serendipity favored this study in several aspects. For example, I worked at the hospital during March, a month with rather heavy skiing injury potential. I had not realized that in March the weather was still so unstable that the construction industry (with a high incidence of back injuries) was not in full swing; most of the industrial injuries, chiefly involving the extremities, occurred in factories. The industrial injuries were therefore similar to the skiing injuries. Further, the industrially injured sample contained some Yugoslavian workers (Gastarbeiter) who knew their continuing participation in the Austrian work force required relatively unimpaired work capacity. These men, therefore, were not inclined to complain, and the report by them of psychiatric symptoms after the injury was a further validation of the reality of those symptoms breaking through barriers of suppression. Also, in Austria persons ski to relatively advanced age, thus making the age groups of the ski-injured more nearly parallel to those of the industrially injured.

For the year 1974, the accident hospital treated 10 000 outpatients and 2800 inpatients. The preliminary statistical survey of 1975 indicates patient flow and breakdown into various categories of injury similar to that of 1974. Skiing injuries accounted for 28% of the total; work-related injuries, 17%; traffic injuries, 22%; and home injuries, 8%. The remaining 25% involved a miscellany of school, sport (football, mountain climbing, and so forth), farm, and other injuries.

Forty-eight injured persons were examined by me in interviews lasting at least 1 h, often 1½ h. Most were examined in one consultation, although several persons required two sessions when there was some difficulty in communication (Yugoslavian workers, whose German was somewhat uncertain, or older persons native to the Vorarlberg whose dialect was difficult to grasp and who required a longer interview period while they patiently translated their responses into conventional terms). Of those 48 persons, 21 had ski-related injuries and 27 had work-related injuries. Of the work-related injured, most were in the second, fourth, and fifth decades (5 in the second; 6 in the fourth; 9 in the fifth). Of the ski-related injured, most were in the second and fifth decades (6 and 6, respectively).

The appearance of so many industrially injured in the second decade reflects the early entry of apprentices into the labor force (another aspect of serendipity, making the ski-work injury parallel closer). The work-related injuries all involved the lower and upper extremities, including the hands. There was only one work-related back injury; it was associated with an injury to the right knee, with the knee injury being the more disabling. The ski-related injuries all involved the lower and upper extremities, including hands (especially thumb) and wrists. Only one injury involved the rib cage. There were three Yugoslavians in the work-injured sample, and one Yugoslavian among the ski-injured. There were two work-injured women and three women ski-injured. Of the work-injured, the average interval between the injury and my consultation was 4 months (range, 1 to 6 months); of the ski-injured, the average time interval was 2½ months (range, 3 weeks to 4 months). Among the work-injured, there were five persons who had had their injuries 12 to 15 months before my examination.

The posttraumatic psychiatric reactions were divided into two categories. One category was that designated as the "posttraumatic neurotic reaction" requiring all the following symptoms appearing within 2 to 8 weeks after injury: hyperirritability, increased sensitivity to loud noise, problems in concentration and recall, absentmindedness, social withdrawal, anxiety (including phobic reaction for the injuring circumstances), depression, sexual inhibition or inadequacy, and repetitive nightmares with eidetic reliving of the injuring experience. While certain of the above symptoms may not be considered

specific (such as problems in concentration or social withdrawal) their simultaneous occurrence with the other elements of the symptom profile pointed to a concurrent breakdown of various levels of psychic defense, reflecting the totality of the reaction to the injuring event.

The other category of reaction was designated as "the posttraumatic syndrome" requiring one or more of the primary posttraumatic psychiatric symptoms (hyperirritability, increase in sensitivity to loud noise, and posttraumatic nightmares) and three or more of the secondary posttraumatic psychiatric symptoms (problems in concentration or recall, absentmindedness, social withdrawal, depression, and various forms of anxiety including phobias, especially for the injuring event or circumstances). As noted, to establish the diagnosis of posttraumatic syndrome, the symptoms had to occur simultaneously, indicating a simultaneous breakthrough of the psychological defense structures, perhaps to the level represented by the most regressive of the posttraumatic symptoms, hyperirritability [*22*]. The posttraumatic syndrome applies to a larger moiety of injured persons than the posttraumatic neurotic reaction, which is more rigidly determined and entails a more severe breakdown in usually reliable defenses against stress.

Of the 21 ski-injured persons, 12 had no discernible psychiatric reaction to their injuries; 11 had definite psychiatric reactions, and of these 11, 3 presented with the posttraumatic neurotic reaction pattern described above. Of the 27 work-injured, 14 did not present any psychiatric reaction after the injury; 12 had psychiatric reactions, of which 5 were posttraumatic neurotic reactions. A careful examination of those, both ski- and work-injured, who had a posttraumatic psychiatric reaction of whatever type did not indicate any specificity in respect to sex, age, site of injury, or personality formation prior to injury.

There were, however, certain suggestive differences between those who had posttraumatic psychiatric reactions and those who did not. It must be pointed out that these differences were only suggestive and may be the subject of further investigation. These differences applied regardless of whether the persons were ski- or work-injured. Those who had the posttraumatic psychiatric reactions appeared less prepared for the eventuality of an accident; for example, among the ski-injured were skiers of greater than average experience and physical condition. Likewise, among the work-injured, those with posttraumatic psychiatric reactions appeared to be the more experienced; if anything, they were overly familiar with their particular job and especially secure in their employment in terms of longevity. Another observation regarding those who had posttraumatic psychiatric reactions was that the injuries appeared to occur on the last day of holiday, or for the work-injured on the last day of the week or just before anticipated vacation. The injury, therefore, served as an impediment to the resumption of previous activity or as interference with anticipated leisure. I have noticed also among the injured workers examined in California that an unusually large proportion of those injuries which result in psychiatric reactions occur on Friday.

All the Yugoslavians who were injured (1 ski injury and 3 work injuries) presented posttraumatic psychiatric reactions. This sample is indeed very small and probably does not justify any extrapolation to a wider hypothetical group. I devoted particular attention to these persons because of the unique circumstances surrounding their presence in Austria. All of them demonstrated, for example, outstanding conversion-hysterical features in their overall symptoms. This was determined in part by direct suppression of verbal complaint, which suppression apparently reinforced repressive defenses, resulting in somatization of repressed feelings. Further, as previously noted, these men were under daily threat of job loss and return to their homeland if their work capacity were to be compromised. Nevertheless, the symptoms of the posttraumatic psychiatric reaction broke through the suppressive barrier into florid display, as if the ongoing tension from the threat of job loss made the defense against stress more fragile.

It is of interest that the injuries sustained by the skiers were displayed as prestige symbols, intended as evidence of audacity and courage, doubtless serving a counterphobic function. Even in these instances, the posttraumatic psychiatric reactions appeared to erupt through these counterphobic defenses, indicating the power of these reactions. Certainly, the forces bringing about these posttraumatic reactions countervailed against the obscuring effects of apparent prestige associated with the injury. This prestige was not only accepted by the injured but also supported by confreres.

For the injured worker, the prospect facing him was enforced regression at home. In contrast to the American worker, the Austrian is not only not expected to do any household chores, he is prevented from doing such by his doting wife, who regards it as her duty to see that husband rests. Therefore, while the American worker who is injured struggles to maintain a contributing role in the household by doing chores, and thus softens his "sick" position, the injured Austrian worker is forced into what might be considered the position of maximal secondary gain. This enforced idleness or rest (a form of compensation) does not resolve the posttraumatic reaction; in fact, it probably enhances it, as reflected by my small sample of five work-injured men who had had their injuries 12 to 15 months before my examination. This enforced idleness was deeply feared by these men, not only in terms of being taken out of the mainstream of their peers with the loss of mutual reinforcement of their sense of manliness and importance, but also, at a deeper level, in terms of the movement towards regressive-dependent status that far outweighed the apparent benefits of the secondary gain position. While there are individuals who relish torpor, it was my impression that the sample would have to be very vast to uncover such persons. Not one of the individuals whom I examined gave any indication, conscious or unconscious, that idleness was a welcome state serving as an unconscious inducement to maintain a "sick" position which would lead to further regression.

Discussion

The aim of this research was to establish yet another ground for considering the posttraumatic reaction as a valid concept. Of particular interest was liberating the genesis of this condition from the compensation motive. While the samples of ski- and work-injured were admittedly small, the results are strongly suggestive that the same reactions occur in ski injuries as in work injuries. Further, the samples were studied under such circumstances (social-democratic medical insurance coverage) that compensation as a lump-sum award could not be a significant inducement. That is, the psychiatric reactions occurred independently of the possibility of financial gain as a result of the complaints. These study samples were also free of the effects of litigation, establishing that the reactions occurred apart from the putative influence of attorneys and the courts. The ski-injured were selected as a control group, particularly because their injuries would not usually be subject to legal procedures. Since in the U.S.A. most injured persons referred to psychiatrists for evaluation are involved in litigation, the ski-injured persons, as a control group, were considerably important for this study. Compensation payments and litigation have significant psychological effects on injured persons, but compensation and litigation do not, according to my study, *cause* the posttraumatic reaction described above.

Superimposed on the posttraumatic psychiatric reaction, the apparent lure of compensation, when presented as a possible, large award even though it is to be disbursed in weekly modest payments, introduces special problems. Unfortunately, for the average worker, unused to being confronted with possible ownership of a considerable sum of money, there is a tendency to overvalue the potential award. Money represents, among

other things, probably the most nearly successful instrument for translating fantasy into reality. That is, compensation as the "pot of gold" (no psychoanalytic pun intended) tends to shift the search for resolution of the dilemma posed by the effects of injury from the use of residual, realistic, ego potentials to fantasy expectations.

The anticipation of compensation arouses considerable guilt on the part of the injured person. He, too, shares with the general public attitudes of contempt, ridicule (for inadequacy, hence, impotence), and accusation (of parasitism, as if the compensation benefits were unearned) for the person dependent on public monies. However, in his case those attitudes are directed towards himself. Compensation is also seen as the mechanical calculation of a quantity of money considered equivalent to the discomfort, disruption of life plan, incapacity, and self-devaluation of the injured person. This is certainly depersonalization in its original sense. While there may indeed be euphoria following the settlement of claims and receipt of the award, this euphoria is short-lived, terminated not only by the realization of the practical meaning of the award but also by recognition of the award as a form of social write-off, that the individual has no further claim upon society and that there is no further acknowledgement of his distress. There is, of course, no question at this point in our social-economic-political history of *not* providing compensation benefits, in either the European or the U.S. pattern. The point to be recognized is that the assumed benefits of compensation are about equally matched by companion psychological burdens. The awareness of the psychological effects of compensation is important for the psychiatrist or physician treating the injured. These effects constitute a significant factor superimposed on the posttraumatic psychiatric reaction. The psychiatrist should be familiar with the rules of compensation, in order to clarify those rules for the injured person and to avoid the negative consequences of such payments. The psychiatrist familiar with compensation can serve as active advisor to trier-of-fact and attorney as to how the monies are to be paid.

Litigation presents a special, probably novel, experience for the injured person. It imposes on him, as does compensation, an encumbrance in addition to the posttraumatic psychiatric consequences. This experience may be truly Kafkaesque, making him feel accused, defensive, and frightened, as if he were not in fact the injured party. When the experience of litigation is complicated by the discovery that the injured person is under surveillance by telephoto lenses (a not uncommon practice of insurance carriers), the appearance of paranoid-like responses may be expected to some degree. It appears to be a painful, but nonetheless true, paradox that the innocent person may appear surprisingly guilty. Whatever fantasies of violence, sin, or miscreancy may be harbored by the injured appear on the edge of discovery when he is in court. This dread of exposure may lead to clumsy attempts at concealment, augmenting the problem by making him less protected against innuendo or direct charge of not telling the truth. In court, because of unfamiliarity with the procedures, he may feel particularly vulnerable to ridicule. The injured person in litigation is expected to concentrate on winning, yet he may not be familiar with the language required in a courtroom to express appropriate aggression. This tends to cause feelings of estrangement, bewilderment, and frustration. Certainly such factors contribute to distress, but, again, this is not *causative* of the posttraumatic psychiatric reaction. Litigation effects may be somewhat softened by preparation, informed anticipation, and supportive reassurance by the attorney. In the U.S., litigation has been accepted as the mode for truth and fact-finding in matters of work injury. This may change, but the psychiatrist or physician must be cognizant of the effects of litigation in the evaluation and treatment of the injured. Like compensation, the benefits of litigation are inherently accompanied by significant psychiatric implications.

The aim of this paper has been to make a contribution to establishing the validity of posttraumatic psychiatric reaction, however designated. The validity of a condition is bound up inevitably with its consistent cause (that cause, unique or multiple, consistently

resulting in the condition described). The validity of a condition may also be established by widespread, shared recognition; the more widespread the recognition, the more nearly acceptable the validity of the condition at that level of proof. As to the cause of the posttraumatic reaction, there does not appear at present to be a final, completely acceptable understanding.

The posttraumatic psychiatric reaction occurs in a person or persons exposed to a particular experience (physical or psychological, actual, or threatened). The symptoms of the posttraumatic psychiatric reaction have been described. I am in the process of examining each of those symptoms to determine whether those symptoms have characteristics peculiar to the posttraumatic psychiatric profile [*22,23*]. Is the cause of the posttraumatic psychiatric reaction extrinsic or intrinsic to the affected individual? Or is it a combination of both? Among extrinsic factors are included the nature of the traumatic experience itself; secondary gain (in its original psychoanalytic sense); money; litigation; removal from an unpleasant, burdensome, or dangerous environment; or resolution of interpersonal problems. Among intrinsic factors one may include character formation, resolution of internalized conflicts, displaced relief of rage, paranoid self-aggrandizement, and fulfillment of regressive needs (primary gain) for dealing with anxiety.

The nature of the traumatic experience may be characterized by its unexpectedness (for example, because of over-familiarity with a work procedure) or irrationality (in the instance of emotional stress, where the element of irrationality makes it difficult to countervail against the stress). The objective determination of the injuring experience in terms of the size of forces involved or the severity of physical consequences on the injured does not seem to have a direct, correlated relationship with the severity of the posttraumatic psychiatric reaction. Secondary gain may be a later development following the posttraumatic psychiatric reaction (not causative), when the injured person becomes aware of his helplessness.

Although this study is a preliminary effort, requiring further confirmation, it would appear that money and litigation, although introducing special problems, are not causative of the posttraumatic reaction. Character formation does not appear to be decisive in the development of this reaction, as indicated by studies of catastrophes involving large groups of persons (for example, the Buffalo Creek disaster of 1972, where the catastrophic experience produced similar reactions in persons of different characteristic background). All of the possible elements contributing to the formation of the posttraumatic psychiatric reaction must be explored in the search for the understanding of this extraordinarily important condition. I hope that one day this condition may be given the generally accepted diagnostic dignity it deserves in view of the considerable number of persons suffering yearly (with expected increase in both absolute and relative incidence) and in view of the social-economic consequences of this problem.

Summary

To determine whether posttraumatic reactions occurred in injured individuals not confronted with litigation or compensation (as reckoned in the U.S.), a parallel study was undertaken in a social-democratic country (Austria) between ski- and work-injured groups. Although each group had a significantly different way of regarding the injury, there appeared to be a comparable incidence of posttraumatic psychiatric reaction in each. The absence of compensation (in contrast to disability maintenance) did not inhibit the appearance of the posttraumatic reaction. A discussion of the effects of compensation and litigation pointed out the separate nature of the problems associated with these two aspects of dealing with injury, with those problems being imposed upon, but not causative of, the posttraumatic psychiatric reaction.

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