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Acute or Chronic Stress as Determinants of Behavior, Character, and Neurosis

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Historical Introduction

Psychological reactions to stress have been studied with increasing sophistication during the twentieth century, although old-fashioned ideas, prejudice, and blind spots from wishes to ignore the effects of trauma and stress remain to plague clinical practice in this area.

The earliest explanations, in the 1800s, of conditions which we now recognize as neuroses following trauma were ones which postulated "molecular disarrangement" or vascular changes in the spinal cord. For example, John Eric Erichsen described symptoms "following (train) accidents which may assume the form of a traumatic hysteria, neurasthenia, hypochondriasis, or melancholia." He called this syndrome "railway spine," attributing it to organic causes and the idea persisted in the literature as "Erichsen's disease." Brodie, in 1837, was probably the first physician to recognize that for some hysterical symptoms, "fear, suggestion, and unconscious simulation are primary factors." In the

1880s, Oppenheim was the leading exponent of the organic etiology of "traumatic neurosis" while Charcot, pointing to the resemblance of the symptoms to the changes seen during hypnosis, hypothesized a psychogenesis of this condition. The idea of organic damage to the nervous system persisted, nevertheless, during World War I in the term "shell shock," suggesting that the cumulative effects of noise and shock waves had caused damage in the central nervous system.

From re-examination of these conditions after World War I, the psychodynamic pathogenesis of the "war neuroses" gained increasing acceptance. Psychoanalysts began to illuminate the psychological processes underlying these conditions largely from questions raised about the meaning of one of their features, the repetitive post-traumatic dreams. They noted how these nightmares replayed the traumatic episode up to the point of impact and ended in terror and awakening. These observations could be understood as attempts at mastering the trauma.

Studies on "traumatic neuroses" in peace time were greatly augmented during World War II and described in detail in publications during and after the war. A more humanitarian attitude developed from recognition that these conditions needed treatment instead of a disciplinary approach and methods of treatment were conceived such as

abreaction, using drugs, and dramatic presentation of the traumatic event to the victim.

Many reports have been published of symptoms and personality changes following industrial accidents, as summarized previously by one of the authors of this chapter, and in a most comprehensive book by Lester Keiser, indicating the reality and validity of psychic reactions to industrial accidents.

Reactions to disaster have been the object of many investigations in the last twenty years, delineating the types and phases of these, with implications for preparedness even in the event of nuclear disaster.

The term “gross stress reaction,” as proposed in the 1952 official psychiatric nomenclature, seemed a very appropriate diagnostic label for the conditions ensuing upon injury, psychic trauma, or disaster, because it connoted the unusual circumstances in their development. It is to be regretted that for reasons of symmetry and classificatory neatness this term has been changed to the pallid “adjustment reaction of adult life” of the 1968 revision.

Some of the effects of the most severe stresses imposed upon humans by other humans have been described for three groups of victims: adults held in Nazi concentration camps and their children;

survivors of atomic bombing in Japan; and prisoners of war subjected to coercive indoctrination.

Moral, ethical, and group pressures, as well as the usual physical punishment, threats to life, killing of relatives, overcrowding, starvation, and disease, were described as instruments of psychic trauma. “Survival guilt” is particularly prominent under the circumstances when relatives and other close associates have not survived. Also, there have been discoveries on how the will to survive could greatly increase ego strength when it became a moral value. Solzhenitsyn’s *One Day in the Life of Ivan Denisovich* serves to inform us as an in-depth study of this crucial phenomenon. Terrence Des Pres presents a theory on the extreme situation in our times along the lines of the discoveries from studies of concentration camps, Solzhenitsyn’s writings, and Robert Jay Lifton on Hiroshima survivors.

Des Pres contrasts the tragic hero who, in Ernest Hemingway’s phrase, is “destroyed but not defeated” with the survivor whose “task is harder, since for him destruction and defeat, like soul and body, cannot be separated.” The “will to continue as a human being” constitutes victory for the survivor in the extreme situation. We see varieties of the tragic hero and the survivor in clinical work with victims of psychic trauma.

The reports on prisoners of recent wars have shown how powerful the effects of isolation and sleep deprivation could be, and how guilt over noncooperation with the indoctrinators could be used as a psychic trauma benefiting the interrogators if the prisoner was separated from his comrades. Meanwhile, a strong but self-righteous nation blamed its own younger generation for these “turncoats,” perhaps setting up the rebellion and generation gap to come a decade or so later.

The most comprehensive coverage of psychoanalytic understanding of psychological stress is in a volume on *Psychic Trauma,* edited by Sidney Furst and including contributions by Anna Freud, Phyllis Greenacre, Marianne Kris, Peter Neubauer, Leo Ranged, Joseph Sandler, Albert Solnit, and Robert Waelder.

Recommendations from industrial mental health studies have pointed out the responsibility of management for full awareness of the psychic effects of jobs,' including “executive stress,” in order to design organizational measures for the avoidance of pathogenic stress or to provide early treatment of its symptoms. In fact, some court decisions have awarded compensation to employees with psychiatric disorders alleged to have been the consequence of stress on the job. The Social Security Administration also awards compensations for these disorders, but there is great need for better scientific understanding to clarify the

difficult questions of who should have compensation, and whether it is in the true, long-range interests of the victim to receive it.

The special stresses of space flight and the successful adaptation to these have been described from the study of astronauts through training and orbital flights.

The war in Vietnam has also been contributing further experience with reactions to multiple stresses.

There has been much clinical and experimental investigation of the biochemical accompaniments of stressful experiences. The amount of "distress" and biochemical disturbance, such as the production rate of hydrocortisone, appear to relate to the degree of failure of ego defenses. This research evokes speculation on the existence of chain reactions arising from stress-stimulating endocrine systems which in turn affect behavior. Could it be that some of the post-traumatic syndromes are the result of behavior patterned by endocrine systems altered by psychic stress? In laboratory experiments with rats, the psychic stress of overcrowded cages causes permanent changes in the rat's personality and is associated with clearly detectable alterations in the endocrine system.'' The conceptions and descriptions in the remaining sections will be based on clinical experience of both authors in industrial psychiatry

and with surgical patients, from the reports of experience and ideas of many others, and from a recent study by one of the authors of patients admitted to a surgical service following injuries and burns.

A General Theory of Psychic Stress

Psychic trauma consists of these stages: first, an event or events, often threatening but sometimes just intense or demanding, and usually external; second, an intrapsychic process from the event; third, an emotional discharge from the process; and finally, the psychic consequences of the event, of the process, and of the discharge. We cannot always identify traumatic events from their intrinsic nature as one man's trauma may be another's exciting and interesting episode, or the presumed stresses may be successfully warded off. Intrapsychic process means that the trauma is absorbed and a chain of reactions is set off within the mind, eventuating in varying intensities and qualities of emotional discharge. The consequences of trauma consist of temporary or permanent structural changes, such as psychological symptoms and changes in behavioral patterns. There is a reshaping of the resonating memories of the event. Changes occur in the course of intrapsychic process and in the intensities and qualities of the emotional discharge.

Trauma may start from the apparently trivial (a child's reaction to

his mother's leaving the room) or from personally catastrophic happenings. In this chapter, we shall assume we are dealing with traumatic events *well beyond* "the average expectable environment," that is, with events that would put most women and men to the test, rather than with the subtle cumulative episodes in human relations which create predispositions in childhood to psychoneuroses in adulthood.

At its core, the basic theory of trauma and stress as an aspect of human experience is not complicated. The fundamental issue of psychic trauma is quite simple, and once we have grasped it we can then deal with the subtleties and ambiguities which always abound in reasonable concepts of human behavior.

The basic theory of trauma devolves upon the idea that the mind is equipped with a *stimulus barrier,* protecting it against sudden or excessive outside excitation which could upset the equilibrium or disturb the integration of essential functions. Psychic trauma occurs when the level of outside excitation or stimuli exceeds the capacity of the stimulus barrier to resist its intrusion, with the result of a breakthrough, disturbing integration, upsetting equilibrium, and leading to degrees of disorganization and imbalance of mental function.

To investigate the nature of the stimulus barrier further, let us

imagine, as Freud imagined, an organic vesicle suspended in atmosphere and receiving on its surface the random bombardment of stimuli from without. This continuing process soon causes a cornification or toughening of the outer layers of the vesicle. By the continuing passage of stimuli, the outer layers are changed (Freud said "baked through"), and the vesicle becomes resistant to stimuli. Its inner processes are no longer so subject to the impinging changes of its environment. In this way, the human inpidual, at first subject to all excitations, which are partially controlled by a protective shield provided by parents and the nursing environment, gradually acquires his own stimulus barrier. The barrier or shield varies in resilience and toughness from the intensity and quality of excitations which have been allowed to impinge and change the perceptual layers of the mind. For most persons, the barrier functions effectively to protect the ego integration and personality organization in situations which are moderately stressful, that is, when the level of external excitation is above average but tolerable. These are situations of noisy confusion, burdensome threat, or demand. If there are no special sensitivities, the protection offered by the stimulus barrier enables the inpidual to remain relatively cool and constructively responsive, without overwhelming the integration and organization of the mental systems. We have seen this behavior time and again in the experienced personnel of hospital emergency rooms.

From this point of view, psychic trauma may be understood as a purely *quantitative* mental phenomenon. Psychic trauma has occurred when the level of excitation from physical or emotional threat, from fear, from confusion and informational overload, is so great that the stimulus barrier is overcome. There follows an intrusion of these stimuli beyond the capacity of mental systems to maintain organization and integration of functions, thus a breakdown in mental receiving power and an inability to continue *orderly* processing of further stimuli. If we add the dimension of time to the concept of an intrusion of too much excitation causing disorder of the mind, we may observe that after an abatement of excessive excitation the disrupted stimulus barrier will be restored, reorganization will occur, disorder will end, and orderly processing by mental systems may resume. In many situations, the response to trauma can be described exactly this way, having only temporary effects, and the episode is recalled as an interesting life experience, leaving no more than a little shudder or a thrill at the base of the spine when it is remembered. In such cases, it may usually be recalled at will.

> One of us can remember as an adolescent being a passenger in a car late at night in the country. The car veered gradually from the road and seemed to be methodically sheering a succession of fence posts. Then it turned to the other side, entering a soft and muddy pasture where it began to roll over slowly and deliberately, it seemed, three times. To this passenger it was the horizon turning. “Remarkable,” he thought, “I’m dead when the horizon stops.” The rolling ended and two of the three passengers faced one another on all fours on the roof of the overturned car. Speaking softly,

they found no injuries, but the third person, the driver, was not there. The search for him was panicky with shouting, but brief. He was injured but not seriously. Shortly thereafter, help came and the psychic trauma was mostly over. For a few days to a week, there were very minor signs of leftover fear, but for the most part, whatever symptoms or residuals there were from this experience came from the pleasures of dramatizing and the attention it aroused. Note the indications of stimulus barrier from the perception that the destruction of fence posts seemed "methodical," that the rolling of the car seemed slow and deliberate, and in the philosophical attitude toward death, as though one were in a seminar on the subject during the second or two that the car bounced around in the pasture. The breakthrough occurred briefly during the disordered search for the driver. The overstimulation abated and the reorganization began when he was found and it continued for a few days afterward.

Continuing to speak from our approach to a central concept of psychic trauma, the quantitative point of view, we need to look for explanations of cases in which the painful effects of the traumatic experience are persistent. We are naturally attracted to an idea that first drew Freud and other early psychological theorists, not only as an explanation for the chronic effects of extraordinary stresses, but as an explanation for all kinds of neurosis. We may call it the *painful memory theory*. This idea is that the psyche after trauma is eager to turn its back on the experience. It postulates that the persistent effects of a stress which no longer is exerting outside pressure come from trying hard not to encounter the memory, and also from painfully meeting it in dreams, in chance associations, and in samples or versions of it in occasions of real life. This theory is not quite right; it is too simple, though some

aspects of it are correct, as we shall see from later views of the subtleties of behavior in the aftermath of stress. Our most immediate argument opposing this theory is that the capacity for memory of the whole traumatic scene and all its details actually correlates highly with full recovery, indicating that painful memories do not cause neurosis, and that the mind in these instances has been able to draw the unpleasantness from the experience. An impairment of memory for trauma seems more likely an indicator that a pathogenic response has occurred, rather than that the memory disorder is a cause of continuing disturbance or excessive defensiveness.

Freud had to abandon the painful memory idea, though there are some professionals who still hold to it. Many traumatized patients are implicitly convinced of it; particularly those who are having difficulties they only partially recognize. “I only want (or need) to forget it; I don’t want to talk about it,” they say with some anger, if pressed to remember.

In place of the painful memory idea, we return to the concept of disorganization of psychic functions and loss of integration from a forcing of the stimulus barrier and flooding of the psychic apparatus with excitation. As the flood abates and the mind is relieved of its overload, gaining order and strength to begin processing again, we may conceive that the reorganization could be imperfect. Just as the receding flood of a

river which had overflowed its banks leaves damage upon the landed structures, or as the populace has not the resources to bring about repairs of dikes against further flooding, so the interior of the mind can be more or less permanently impaired in its functioning by the overload, and be without the inner resources to reconstruct a well-working stimulus barrier, and reorganize its functions as effectively as they worked before. The inpidual is then unable to strengthen defenses against much lesser stimuli than the trauma which caused the damage in the first place.

In other words, the persistent pathogenic effects of stress or trauma following excessive excitation through the stimulus barrier occur because reorganization of ego functions and reintegration have not achieved the efficiency and strength the ego had before the trauma. The damage has been too great or the reparative factors have not functioned well enough.

The processes of imperfect reorganization after trauma are relatively specific. They may often be observed during recovery from a serious injury. In the early aftermath of trauma or stress, reorganization appears to be most defective in reconstituting the stimulus barrier and in regulation of affect discharge, leaving the mind still hypersensitive to even minor stimuli, i.e., excitations that would not have disturbed

personality equilibrium prior to trauma. In a second phase of pathogenic reconstitution, the reorganization may become imperfect in two ways: (1) An excessive need to avoid re-experiencing the trauma in any form, with modifications of defensive functions of the ego to deal with fears of re-experiencing these excitations, or (2) attempts to achieve impossibly absolute control and regulation over emotional discharge for the avoidance of possibly traumatic situations.

From this way of understanding acute, subacute, and chronic effects of stress, we see the psychic apparatus remaining too sensitive to stimulations from within (aggressive and sexual impulses requiring affect discharge and releasing anxiety signal), and from without (stimulations interpreted as possible recurrences of traumatic overload, or evoking the possibility of arousal and releasing anxiety signal). Or, the psychic apparatus may become increasingly rigid and organized around the requirement to protect against the possibility of an overwhelming stimulus. The result of these changes is an extremely restless, irritable, and anxious person, one complaining of a number of physical symptoms associated with autonomic discharge, or one with an extremely guarded and constricted personality.

While this purely quantitative point of view, the idea of “too much” as an understanding of the immediate impact and long-term effects of

stress and trauma remains theoretically essential, there is much it does not explain in the clinical picture and in the process of reconstitution. This mode of theorizing helps little in clinical prediction regarding the recovery phase and in deciding which inpiduals will continue to have difficulty and which will not. It is helpful in thinking about prevention and treatment of the subacute and chronic effects of a traumatic experience, because it indicates that the overwhelmed inpidual needs a gradually dosed discharge of the anxiety aroused by trauma and dammed up by defenses. While the concept of excessive excitation is central to understanding trauma and stress, the subtleties and variations among inpiduals and the real clinical process of reconstitution after impact require other points of view as well.

We need to add the following three approaches to our general psychological theory: (1) The *meaning* of the traumatic experience to the person at conscious and unconscious levels. (This is a psychodynamic point of view on trauma and stress.) (2) The nature of *relationships* of the traumatized inpidual with his environment, including its human and nonhuman aspects. (An adaptive point of view.) (3) The effects of *past experience* on the response to impact and the process of reconstitution. (A psychogenetic point of view.)

1. The primary problem with regard to the meaning to the inpidual

of most forms of stress or trauma is the lack of meaning when it happens. When we wake up from a dream in which bad things are happening, we naturally experience relief when we have shaken off the clutches of the dream's vividness. The next thought in most cases is a reproach to the self for having been in the throes of the dream's imagery. How could one be so weak and stupid to have been taken in? "That really couldn't happen to me, why did I allow even my sleeping self to be so frightened and miserable?" said a man after relating such a dream. The reasons for such unpleasant dreams are not the province of this discussion, but the strong feeling that such things cannot happen to "me" is an indication of the feeling and attitude of *invulnerability* most people have before the trauma hits. But the invulnerability has gone then; it has happened, and the inner statement, "It couldn't happen to me," is altered to "Why me?" This question after the loss of the illusion of invulnerability, an illusion which many regain soon after recovery, is unanswerable in terms of external reality. Most forms of trauma occur in settings with which the victim is intensely familiar, on the job, on the way to work, and in the home, i.e., in settings where he feels comfortable, protected, and least expecting that the stress will occur. This external meaninglessness of it all is a special challenge to the feeling of invulnerability.

In support of the notion that the conviction of invulnerability exists at all in the average human being, we have findings from our research

studies which will not be detailed here. An investigator for the Federal Aviation Administration has noted how physician pilots are overrepresented in fatal small plane accidents and said, “These doctors must think nothing can happen to them!”

The external meaninglessness of trauma to the human mind which wants everything to have some meaning, the universal, if temporary, loss of the illusive invulnerability, and the question which first occurs to the awakening and relaxing mind, “Why me?” present problems for resolution to the inpidual, which add immensely to the levels of excitation brought on by the trauma itself. Each of these factors contributes to the feeling of helplessness, which will partly fade when the fear becomes less real, but which must be assimilated and worked through before reintegration can begin.

Beyond these problems, we come upon still others which are common, if not universal, in the process of initial or early response to trauma. Although the experience has no “real,” that is, external, meaning to most, there are internal emotional meanings unconsciously evoked and attached to the stressful events. Like nature abhorring a vacuum, the human mind hates randomness and lack of meaning, so people suffering stress create a meaning for what has happened, often without regard to external reality. Thus the significance of the stress is formed from

unconscious needs and thoughts. These assigned meanings, arising from the depths of personality, interact with pre-existing neurotic conflicts and strongly influence the subsequent processes of reconstitution.

For example, the situation of helplessness, as an aftermath of acute trauma and as an element of chronic stress, having both physical and emotional sides, is interpreted variously by trauma victims. The diminution of physical strength and control of the self because of immobilization, during the emergency and reparative treatment of physical injury, dovetails with serious concerns over deterioration of social, vocational, and family roles. A basically trusting person, or one flexibly confident of his capacities in his current roles, may understand the helplessness as temporary and simply take help where and when needed. Another, with conflicts over basic trust, may interpret the situation as a deprivation beyond toleration, with an increase of anger or depression. Still another, with a fundamental difficulty in the area of self-doubt, may interpret the helplessness as a personal failure and become unaccepting of his dependency, or become increasingly depressed and anxious, rather than gradually relieved of these feelings with the lessening of stress.

The question everybody asks after or during an inpidual catastrophe, “Why me?” may be answered within, primitively, magically,

and unconsciously, by a part of the self, an agency of the mind, functioning as critic and judge of the self, the superego: “Because you are guilty and deserve your fate.” The attitude of deserving the trauma, unconscious but nevertheless powerfully influential in feeling and behavior, is parallel to the logic of primitive animistic belief and even some modern religions. Guilt comes to the surface in this way after trauma. It is also expressed in terms of excessive feelings of responsibility for an accident, in the form of not wanting to be aware of the causes of the stress because of possibly final and valid reasons to feel guilty.

The good fortune of surviving a stress which others do not almost always evokes guilt feelings overtly and unconsciously, too. The question of deserving to be saved is part of it, but the more severe forms of “survival guilt” derive from the natural prior wish that grenades or a prison guard’s brutality, whatever it is, will fall on someone other than the self, even though the others may be close comrades. Magical thinking is an essential element of this kind of neurotic recovery from trauma, because one must believe that these personal and “selfish” wishes spare the self at the expense of others.

The external meaninglessness of most traumatic events causes inpiduals prone to self-condemnation to make the trauma part of a basic

unconscious fantasy about themselves. In these persons the meaning of the trauma is that it is a "command." This command to feel, think, and behave differently appears to be external, but is actually internal and due to the awakening of repressed memories of actual punishment or repressed fears of punishment. Here, the internal self-accusing forces of hypertrophied and harsh superegos have been projected upon this new external reality, the traumatic event, so that it is seen in the terms of unconscious fantasy as an indicator of personal badness, and the happening has been interpreted as a demand to rid the self of imagined evil. It means to such an inpidual that he must exorcise something, some feeling like sexual desire, from himself and from his future way of life. This kind of conceptualizing sounds primitive and magical, but it should be understood as an interpretation of deeply unconscious fantasies which give the trauma the meaning of a command. This kind of thinking comes to light in half-humorous statements like, "What did I do to deserve this?" but in a more brooding and serious way in patients who suffer obscurely from the idea that the powerful forces of fate have been directed at them for cause.

By the "physio-dynamics" of a traumatic episode we mean the sequence and causal chain of events leading to impact, that is the *way* it happened. These physio-dynamics tend to have psychodynamic significance, shaping conscious and unconscious feelings about the

events which may persist for years or a lifetime. Also, the "intent" of the person responsible for the trauma, be it the self or another, the activity or passivity of the victim in the traumatic event, and the emotional disposition of the victim, have psychodynamic significance, with effects upon pre-existing emotional conflicts and a reshaping of defensive structure within the inpidual in years to follow. These factors require a case vignette for elucidation.

> Mrs. D., a stable, intelligent, vigorous, forty-five-year old woman, was driving with her son on a wet winter evening. She came to an intersection, stopped, and waited for the green light. She accelerated when she saw it, and halfway through the intersection she noted a sudden brilliance on the streets and the approach of something from the right side of her car. The last she knew was her son saying, "What the. . . ." She suffered concussion, laceration, and bruises. Her son was comatose and remained so for thirteen months when he died. Several years later, following some further stresses, which were part of a chain reaction of family misfortune started by the original crisis, the woman sought help for recurrent feelings of depression and a number of bodily symptoms associated with autonomic dysfunction.

There were three trends with psychodynamic significance in her case, which also exemplify the conflict-causing factors in many cases of major stress. First of all, the wet and wintry streets were not brought into the vignette for dramatic effect. They were aspects of the scene later used by the woman as part of an obsessional blaming of herself and a wretched wishing that she had done differently, i.e., not driven on a wet night in winter. Then, every other circumstance of the night was used to

charge her with crimes of omission or commission, for example, that she should not have gone to the meeting, that she should not have been with her son, and so forth. These ways of responding to and processing the history of the event and the night it happened, over the years, represent the problem of working over repetitively the complex and changing version of her own responsibility for what happened. In her case, there was no actual personal responsibility for what happened, yet her wishful need to undo the incident many years later was at the expense of assuming responsibility for the accident.

(Distortions in the reverse direction, relieving the self of responsibility for the happening, have been observed. However, in those cases where inpiduals shrink from awareness of their own part in a traumatic happening there is even more severe deterioration in ego strength and capacities for social adjustment.) The evolving ways in which Mrs. D. felt about her choice of actions on the fateful night involve her spiritually and personally as a cause of the accident. This complex of thought and feeling is both wishful and includes suffering; wishful, because it means she could and can control events, and it perpetuates suffering, because she labors to undo each twist and turn of her decision-making that night, haunted continually by it and by the question of her responsibility.

Secondly, the last words, “What the . . .” of Mrs. D.’s son form the memory of a nearly unbearable loss. Such an experience of loss is a thread of meaning in almost all forms of psychic trauma. Some form of loss, even if it is but a part, a trait, or characteristic, of the self, is an element of all significantly stressful experiences. Something is lost or taken away as a result of trauma. There may be chances for compensatory recovery or regaining, but loss occurs in the form of a change in the body or the self, if not in the death of a son. Phantom phenomena with sensory input from severed limbs, or hallucinations of lost persons in otherwise non-psychotic persons, are examples of the psychodynamic effects of traumatic losses, with the matching powerful need to restore the loss by psychological means. Mrs. D. experienced a sometimes visible hallucination and sometimes just a “thereness” of her son; and she was not psychotic.

Finally, we see in this case a vivid example of the significance of the psychological situation of passivity as an element of traumatic experience. In this woman, there was an awareness for a few seconds of the advance of the destructive force, but her normal mobilizing mechanisms could have no effect upon what happened. The psychophysiologic processes of emergency mobilization occurred, we can be sure, but they could not protect her against the trauma. Such is the essence of passivity in human experience, to know what is happening, to

have an awareness of sequence, to be able to organize the emergency physiologic responses of fight or flight, but to have them mean nothing with respect to final consequences. From this point of view, the autonomic discharge in the form of neurasthenic symptoms long after the trauma could constitute continuing efforts to mobilize against the danger, because they were never shut off, never reaching their end point.

2. Adaptive point of view. The nature of the relationship of the inpidual to his environment and other persons may not be as central to the immediately pathogenic factors of trauma as the quantitative facets, or as the meaning of the happening to the victim, but it is as important as the other two with respect to the stages of reorganization, reintegration, and reconstitution.

As socializing animals with faculties for language, humans discover their personal significance as units in dyadic and group relations. In these systems, they experience feelings, attitudes, and thought, and in these fields of interaction, they realize personal values, strengths, and weaknesses. The inpidual's sense of his own environment and his patterns of human relations are the resources which the person has for responding to stress and for recovering from the impact of acute trauma.

The two extremes in the sensing of environments are hostile and

friendly. The soldier faces a hostile and threatening environment in combat. His responding capacity is enhanced or eroded by the ratio of companionship to isolation with his fellow soldiers, and by the support or loneliness afforded by group morale and the will to survive together. A patient-victim after a serious injury may interpret the surgical facility as friendly or hostile. This interpretation of friendly or hostile environment derives in large part from the action and expression of all those responsible for his treatment.

Reorganization after the impact of trauma or during chronic stress is very much along the lines of the form and strength of relations with all those persons significant to the victim. Meaningful communication with other humans restores structure and redefines the self. The connection between fragmented parts of the self is restored in the renewal of social relations, and functions of adaptation are revitalized by the warmth, assurance, and orienting power of personal interchange. Resuming meaningful relations during or after stress is a giant resource for reorganization. The relationship to reality is most effectively restored through these connections with others. The realistic sense of the self is most strongly supported in the context of human interaction. Stress is often an isolating experience. Sometimes, it even means stimulus deprivation after the contrasting massive stimulation of the trauma, if immobilization in a hospital bed is required after a frightening accident.

Breaking through this isolation affords orientation and a sense of continuity, as well as a means of gradual reduction of overstimulation, thus decreasing the fragmentation and loss of integration.

3. Psychogenetic point of view. An understanding of the past contributes to a theory of stress in three ways: (a) It allows an estimate of the psychic strengths and weaknesses that the ego has to meet the stress; (b) It uncovers the recollections of infancy in the helpless condition occasioned by stress; and (c) It acts as a screen for the re-enactment and re-explanation of prior conflict.

a. The early formative experiences in human development determine the strength a person has to fend off, or somehow process, and possibly discharge, the increased levels of excitation and demand upon ego function. The resilience and toughness of the stimulus barrier, versus its possible fragility or brittleness, are determined by these factors as well as by constitutional ones. The kind of stress to which a person is sensitive is similarly determined; for example, some soldiers may resist the horrors of threatened injury to themselves, but crack when they hear or see death or injuries to others.

Some of this sensitivity could be attributed to psychodynamic factors which were implanted in early times but remained relatively

inactive before the stress. When a person carries with him a series of unresolved conflicts, one or more of which is awakened and revitalized by aspects of the stressful situation, there is an increased level of excitation to be managed by the traumatized ego. Also the nature of the stimulus barrier, its resilience and points of weakness, is derived from early family experiences and from the protection the family could afford the child as he developed his own stimulus barrier.

b. Actual and emotional helplessness is in some form and degree a part of the inpidual experience of a stressful situation. Since we have said that the central component of stress is the concept of excitation exceeding the capacity of the organism to integrate its functions, the response of helplessness follows naturally. The state of helplessness resulting from being seriously injured and immobilized, for example, repeats a condition of the past, the times of infancy, and some aspects of early childhood. This return physically and psychologically to a condition of a much earlier time can be an extremely significant factor in the stress and reorganization after impact, mostly determined by the inpidual's capacity to accept the physical and emotional situation of helplessness without being shattered absolutely by it, and without expecting that the recovery from it would be too great a task. The capacity to have a basic trust (in the surgical treatment team, for example), acquired from early development in the mother-child interaction, provides strength for

relieving the helplessness during and after the impact phase of a traumatic situation.

c. The use of the traumatic experience as a screen for emotional conflicts and defenses of the pre-stress personality is mostly significant for concepts of reconstitution and treatment, but is mentioned here since it brings the past, developmental, factors and the traumatic events together. Briefly, we usually see, in patients whose histories include evidence of significant neurotic problems prior to the traumatic event, that the recent experience takes over the previous neurosis. The trauma becomes a screen upon which the patient projects all previous problems. It becomes a new explanation to the self, and a new way of defending against recognition of unconscious impulse and conflictual elements of the old neurotic difficulty. Thus, the adaptation to the new problem, reorganization after trauma, is shaped by the previous neurosis, and the two combine in intricate ways. Sometimes, the traumatic experience and the physical and emotional effects of it become a new way of life, a new way of living out neurotic patterns of adjustment. The unconscious use of the memory of trauma and its aftermath as a screen for the whole structure and pattern of a previous neurosis becomes a way of interpreting current experiences. ("I feel and behave this way because of what happened to me, not because of inherent problems.") This concept of the traumatic event as a screen for past conflict and defensive partial

solutions explains why there are variations of reaction to trauma among inpiduals, which are based upon their way of dealing with previous neurotic difficulty. This idea also emphasizes that there are pathogenic factors leading to chronic disability, not based on mere secondary gain factors (from compensation or insurance payments), in a patient who relates all his symptoms to an injury and forgets pre-existing symptoms.

Varieties of Stress

If stress is fundamentally a matter of overload, does it matter what kind of stress has been imposed? From the standpoint of theory it should not matter, since we are speaking only of a breaking point and it should not make any difference what does the breaking or how. The inpidual differences in reaction are explainable in theory by psychodynamic and psychogenetic factors.

Yet, the kinds of trauma, the varieties of stress, do make a difference psychologically. The social and physical settings, the expectations of the inpidual, and the rhythm and pace of living, are all different when, for example, we are comparing an auto accident with a mortar attack in a field of battle.

Accidents occur almost always in familiar settings, sometimes where they are least expected, at home, in automobiles, and at work. The

psychic trauma comes from actual physical injury or the intense threat of injury, and the possibility of loss of life immediately or for a while after the accident. Industrial accidents may differ slightly from others in that there may be certain occupational hazards to which the employee has learned to adapt and probably has some feeling of mastery over his fear of them. The accident occurs in these cases because of some lapse in the routines designed to insure safety on the part of the employee, often arising from excessive feelings of mastery over fears, or on the part of someone else.

The stressful conditions of *combat* are the nearly constant fear of death and mutilation, amplified by loss of sleep, physical exhaustion, separation from family and personal hardship, and feelings about killing of other humans. The great variety of neurotic symptoms or transient psychotic symptoms in the area of battle are responsive to the bloodshed and may require the inpidual's being removed from combat.

Rotation of duty from the front and back, giving a man something to anticipate with a degree of pleasure and some hope, may prevent some of these conditions. Prompt return to duty in a noncombat assignment has been claimed by some military physicians to be helpful in relieving the pressure of the intense wish to employ symptoms as a means of getting away from the highly unpleasant situation, but this policy may have

actually relieved the pressure of the medical officers from the line officers.

The conditions of military life, differing from those to which the inpidual was accustomed in civilian life, constitute the stresses for *noncombat military neuroses.* Some military clinicians have noted that the proneness to neuroses in the support troops, the rear echelon noncombat soldiers, occurs because they are near the sounds of war, but do not have the aggressive outlet of the soldier in battle areas.

Disasters impose stress on groups, communities, cities, and counties, but the nature of the stress differs in the phases of reaction to it: (1) threat of impending disaster (a typhoon is moving in from the sea), (2) impact (the typhoon hits), (3) recoil (the typhoon has passed and people are recovering themselves, each other, and possessions), (4) post-traumatic period (people have returned to homes and begin reconstruction).

The remoteness of a typhoon way out at sea may often encourage the unconscious defense of denial to misperceive the danger, but if denial is used as the threat becomes imminent the inpidual is less prepared to cope with the stress of impact than if he makes use of anticipatory rehearsal of steps to be taken in the emergency.

During impact, a minority of inpiduals (12-25%) remain cool and collected with full appreciation of the situation and able to carry through procedures for the safety of themselves and others. The majority (about 75%) manifest some degree of the “disaster syndrome,” being stunned, bewildered, docile, and unresponsive. The rapidity of action and the seeming disorder of events restrict their field of attention and interfere with awareness of personal feelings, although they demonstrate physiological concomitants of fear. Another group (about 10-25%) shows inappropriate responses, such as paralysis from fear, or blind flight, or other varieties of excessive activity, flitting ineffectively from one task to another with great distractibility. According to these findings, “When in danger or in doubt/Run in circles; scream and shout,” is the motto for some of us.

During recoil, when the survivors are getting to safety, there is more awareness and expression of emotions, such as anxiety, fear, and anger. Victims of disaster are described as contrasting to victims of accidents in this phase in respect to their appreciation for any help that is being given, rather than resenting others who were not singled out by the injury. In the period of recoil, there is a great need to be with others, and to give expression to feelings about the catastrophe.

Recognition of the meaning of disaster, of loss of loved ones, of

home, possessions, of financial security, is the stress of the post-traumatic period. It is a drastically altered environment that the inpidual is facing, and he may continue to have symptoms of the disaster syndrome, or depression and other neurotic or psychotic sequelae.

Physical illness is a definite and common psychic stress leading, especially in psychologically defensive stages, to a much enhanced and regressive investment in the self, concomitant with less or a different investment in relations with others. This narcissistic regression will necessarily have a pervasive effect on personality adjustment. The fatal illness of a close relative is also a particularly potent stress agent.

Some specific stressful features of *surgery* may be illustrated by the immobilization and sensory deprivation following eye surgery, which must be countered by compensatory stimulation in the nursing care and by visitors.

There have been many studies now of survivors after Nazi persecution in concentration camps, which have established the very persistent nature of the symptoms following upon the stresses of the most massive cruelty in the modern world.' The “Concentration Camp Syndrome” consists of a great deal of anxiety complicated by various defenses against anxiety, an obsessive ruminative state, psychosomatic

manifestations, and depression and guilt. “Survival guilt” on the part of those who have remained alive when so many others have died seems to be an important factor in the perpetuation of symptoms and in negative therapeutic reactions to efforts in treatment.

Survivors of the Hiroshima and Nagasaki bombings have presented symptoms and character changes not unlike those of the concentration camp victims.

Several studies of returned *prisoners of war* of the Chinese Communists have shown how powerful the effects could be of isolation and sleep deprivation, and alternating punishment and reward. They have also indicated how guilt over noncooperation with the indoctrinators could be used as a stress benefiting the interrogator if the prisoner was cut off from his fellows.

Examples of stresses in *work and school adjustments* include the presence of role conflict, and the existence of discrepancies between expectations for the inpidual and his capacities to realize these expectations. Various neurotic or psychosomatic symptoms may follow upon these stresses.

Experimentally induced stresses, such as *sensory isolation,* have been shown to induce acute hallucinations to be experienced by

previously healthy subjects. It appears that information input underload constitutes a stress differing from the information input overload of other varieties of trauma. However, the findings of these experiments continue to support our psychoeconomic theory of trauma and the stimulus barrier concept, because it has been shown that the stressful aspect of sensory reduction is still formed from excessive excitation! This time, though, the hyper-stimulation comes from within. When the equilibrium of outer interests and inner ones is thrown off by the considerable reduction of external stimuli, the mind becomes flooded with the demand of inner impulses and the affects and images which they excite, hence the hallucinations and peculiar feelings building up and disturbing internal order.

There have been cases of unpredictable behavior precipitated by sudden traumatic information, such as the news of the "shocking" assassinations in the United States in recent years, but these instances appear worth adding to the list only to illustrate the broad range of varieties of stress and the manifold reactions to them.

Clinical Process of Acute or Chronic Stress

In an earlier section, we considered psychic trauma from a general theoretical point of view. Now, we must study it as a factor in

psychopathology and see how and in what ways it is psychopathogenic.

Pre-Stress

Curiously, some trauma and some chronic stress appear to be the consequence as much as the cause of psychopathology. Certain inpiduals are the victims of stressful incidents far more often than others, and from study of such cases in comparison with controls, we are forced to the probable conclusion that their course of seeming misfortune and repeated "accidents" is not due to personal bad luck, but to internal psychological factors responsible for accident behavior. These persons use pathological action, impulsive, aggressive, belligerent and risk-taking behavior for the resolution of emotional conflict, or for adjusting problems with other people. These behaviors, which seem reasonable and eminently justifiable to them, are usually discovered to have primitive roots in unconscious fantasy, when the whole pattern and the victim's communication about himself can be studied. Impulsive, aggressive, and risk-taking behavior, such as reckless, drunken driving, is not always or necessarily self-destructive in unconscious aim. It may be intended as creative, though infantile, in the manner in which this basic motivation is carried through. The reckless driver may be creating for himself an image of power, virility and invulnerability, in the behavior leading to his trauma. In very brief summary form, this is a description of

the repeating type of pre-stress personality.

Some pathological actions leading to trauma or chronic stress are not episodic, or repetitive, but occur only once in a person's life, and develop from situations of intense personal conflict or crisis in a family system, or from losses or changes in intense relationships. We rated histories of 65 subjects in our study of physical trauma victims, finding 68% of them to have experienced significant crisis or conflict just prior to the traumatic event. Some of the behavior came from explosions of feeling which were fended off by the victim, as some other behavior was caused by the powerful distraction of crises in which he was involved. At times, there was deep sadness about a current life situation, or the need to act strongly or wildly to relieve accumulating tension. These actions involved heavy risk to the victim's life and limb. (A mother jumped from a moving car during a bitter argument with her daughter.)

Some accident behavior is overtly or covertly suicidal. Three patients in our physical trauma series had been aware of suicidal intent, but concealed their intent from the emergency surgeons. As far as we have been able to observe, suicidal intent leading to trauma or chronic stress does not lessen the psychological effects of impact, although one might imagine that it would cushion the blow if the victim intended to do himself harm. Suicidal acts do not lessen problems of recovery, either.

Instead, it is usually the case that the crisis or conflict precipitating the suicide attempt has not been reduced by the act, though it may appear to be temporarily so.

Impact

The possibly pathogenic aspects of impact have been indicated already from the viewpoints of excessive excitation, the internal psychodynamic problems, and the physio-dynamics and varieties of stress that women and men may encounter.

Disorganization

This kind of pathogenesis occurs from every form of stress or trauma in everyone. If the capacities of the ego apparatus of the mind are exceeded, if the integration is broken down, some disorganization of ego function has occurred, if only briefly. The disorganization from trauma appears for a few seconds, a few hours, or days, or even months in the case of severe trauma or chronic stress. Even without brain impairment (which is sometimes a complicating accompaniment of trauma with shock or head injury), the disorganization shows in some disorientation and blunting of awareness, or disturbance in perception, in memory disturbance, in defects of judgment, in changes of the mode of relating,

and in the regulation of affect discharge.

The disorientation and changes in perceptiveness are not of the kind seen when there is brain damage. They are more like a veil drawn over the capacity to understand a situation and to perceive clearly what is happening. There are likely to be distortions in thinking as a result of the disorganizing impact of trauma. For example, we may observe in stressful group situations, during natural disasters, and so forth, the ease with which rumors are fabricated, become exaggerated, and circulate. In medical and surgical stress situations, the explanations by physicians and others of the purpose and significance of diagnostic procedures and treatment become quickly and highly distorted. Memory disturbance from the mentally disorganizing effect of trauma is also not like that from brain impairment. It is selective, spotty, or amnesic, for brief or sometimes longer periods around the phase of impact and its immediate after-math, suggesting an interference with certain functions of the mind, rather than changes in anatomical structure.

Beyond the moderate disorientation and memory disturbance, there is a loss of integration of thinking and a fragmentation which lowers comprehension and clarity of expression of thoughts. Some degree of forms of the disorganization occurs in everyone experiencing a psychic trauma worthy of the name. The longer term psychopathogenic

effect of the acute disorganizing process is that it sensitizes the inpidual to adverse happenings in the phase of reconstitution, and becomes a part of the traumatic event which the victim would most want to avoid.

Psychic Regression

Except for the thorough falling apart of a major psychosis there is nothing so sure to induce regression in behavior, feeling, and mental function as a severe trauma or continuing stress.

Regression, a mainly intrapsychic process, is usually misunderstood in more than one sense. The process itself is not easily defined, and when in reality a patient is regressing, those around him will most likely not understand what is going on. But it is an extremely significant reaction with far-reaching and deep pathogenic effects, if not reversed.

Psychological development, as we have come to understand it, occurs along lines of unfolding potential with increasing refinement and sophistication. No one of the stages along a line of development is abandoned, rather it becomes a component and the basis for an advance in development. It is possible to move backwards along a particular line or along several and even all lines at once— resorting to earlier ways of adjusting, problem-solving, communication, feeling, relating, and

behaving. This moving back along lines of development is regression and it happens usually or always as a response to stress. It is essentially intrapsychic but there are reflections in interaction with the environment and personal relations. The reactions of those in the environment to the relative helplessness and infantilizing of the subject will in turn influence the depth and reversibility of the regressive process.

Regression is at first a means of resilience with which the inpidual mind can resist the overwhelming stimuli. Later, if it becomes a fixed pattern and does not permit a resumption of more mature and age appropriate responses, these effects prevent psychological healing and become a basis for continuing symptoms and maladaptation after stress.

Two cases illustrate the contrasting courses of regression, with and without reversal of the process of reacting, with earlier modes of adaptation in recovery from stress.

> A forty-two-year-old woman was about to enter her first marriage when she was hospitalized for emergency surgery for pancreatitis and gall bladder disease. About five weeks later, soon after leaving the hospital and while completing marriage plans again, she was a passenger in an auto out of control at high speed, striking a pole, which gave her a fractured hip and minor facial injuries. Her fiancé was more than discouraged. She became deeply morose, non-communicative, stared at the ceiling, and refused most of her food for about four weeks. As far as could be determined she interpreted her surgical condition as being as hopeless as her romantic life. However, physical rehabilitation was effective and it turned her sinking thoughts and feelings around to the point that her interests, her

communicativeness, and her mode of relating all became much less withdrawn and sullen, and more appropriate to her age and sex role.

The process of regression was extremely functional and manifest in an eighteen-year-old high school girl suffering a jaw fracture in an accident in which her boyfriend was killed. About a year before the accident she had lost her father from a coronary attack. In the early interviews, when she did not know of the boyfriend's death and when she was dealing mostly with the concerns about herself and the isolation of the treatment unit, she formed an intense attachment with the interviewer in which she longed for physical as well as verbal contact. At times, she clutched the interviewer's tie while they talked. This outright need for a replacement for the dead father was the principal feature of the regressive process, providing some temporary strength and comfort in the early days of hospitalization. Demands on nurses for extra care and mutually accusatory arguments with them were less fortunate and less helpful aspects of her regression. Some extraordinary interference from the family, including a bereaved mother and a bewildered sister, became a factor which prevented a reversal of the regressive process as the physical stress became less pressing. Recognition of the boyfriend's death was denied the girl for three weeks after she regained consciousness. She must have "known" he was dead, as his whereabouts were not known to her, but she was not allowed to recognize the fact and to feel it, since the decision had been made that she was not "ready" for the information. Some other forms of hushing things up had to do with complicated fears of legal reprisal. The stifling and overprotectiveness of the family in handling several of the circumstances evolving from the traumatic event prevented re-maturation after the regressive process, which seemed at first to be adding to the resilience of the patient's response. Later, her adjustment was built on non-recognition and no memory for the occurrence and significance of the trauma. As in the case of the dead boyfriend, who seemed never to have existed for her, the patient had absolutely no memory at all for the interviewer who had meant so much to her for a six-week period in her life.

In our discussion of a general theory of trauma we outlined its

components, indicating what trauma or stress is. Now, in the clinical process of the response to trauma we have seen what trauma does, how the forces of disorganization, disintegration, and disorder may become weaknesses in the psychic apparatus. The other pathogenic force, regression, as illustrated in the two cases above, is at first a form of resilience in the inpidual response. However, it can also leave an ego weakness, becoming a maladaptation in the form of psychic or physical symptoms or character change if the regressive tendency does not reverse with recovery.

Reconstitution

Our final task is to consider reconstitution. This is all-important, because the way the mind is put back together will determine how it will function thereafter. The intensity and quality of the traumatic experience are of much less human importance than how the pieces fit in a functional unit when the trauma and the responses to it have passed. Since this phase of stress as a determinant of behavior is very much a matter of a person in interaction with the environment, it is the phase of the over-all traumatic process upon which we can have the most influence.

We, as professional staff, can be witnesses and participants in

reconstitution from some forms of trauma, although not in all. When a person is recovering from trauma in a hospital, we can observe reconstitution. In the case of natural disaster, such as a mine disaster, a team of investigators can go to interview and make observations.

Many other forms of trauma are seen after the fact of impact and reconstitution, when pathological consequences have already set in. That is why some faulty concepts of the consequence of trauma have been perpetuated in the literature. Head injury patients, discharged in a few days without plan for follow-up because brain damage had not occurred, may show up months or years later with headaches, tinnitus, and dizziness. Patients with back and other injuries in which the initial physical problems were well treated and the patients discharged but returned with symptoms later, are also victims of psychic trauma in which the reconstitution process was not observed and seen only when its outcome consisted of chronic symptoms or character change.

A twenty-nine-year-old construction worker fell three stories, striking scaffolding on his way down. He was admitted for a shoulder injury and concussion. He was discharged in a few days with the diagnosis of shoulder contusion and concussion, recovered. A year later he was found to have physical and psychological symptoms of a chronic traumatic neurosis.

The fact that the trauma problem has usually been studied after the reconstitutive work had been completed, has led to certain fallacious emphases in psychiatric knowledge and attitudes, for example, on the importance of "secondary gain" concepts and "compensation neurosis," to account for complex behavior patterns following stress. These ideas suggest a willful seeking or an unconscious drive to obtain compensation. While it may be true that a significant number of persons demand financial support long after a trauma has occurred and when purely physical aspects of their injuries have been cured, it is short-circuited reasoning to assume that the symptoms are solely motivated by or dependent on the wish to be compensated. The term "compensation neurosis" appears to be claiming such mercenary etiology.

This way of thinking about reconstitution is based upon an incomplete understanding of "secondary gain" as a psychodynamic mechanism, and upon the tendency of some terminology used to replace true understanding and to perpetuate superficiality.

The term "secondary gain" is best understood as an unconscious resistance arising during treatment to the meaning of certain elements of a symptom. It is the resistance to the understanding of the self, saying, "Better I should suffer than face what I feel, and I shall even find a way to profit from my suffering!" The theoretical significance of this form of

resistance, “secondary gain,” is that the symptom is preferable to the inpidual than recognizing the meaning of it. It may transpire, in recovery from trauma, that the symptoms which obtain monetary gain are preferable to recognition of the very uncomfortable impulses and feelings which have been under poor control after the ego-weakening effect of trauma. Further, it may be true that the compensation won from industrial or governmental commissions by the severity of symptoms becomes an additional reinforcement to resistance against recognition of aspects of the self. However, there are also other resistances in a pathogenic reconstitution from trauma. The demand for compensation by the trauma victim may be the least neurotic part of his total behavior and the most realistic, because it is saying that the psychological effects of trauma can be as disabling as the physical. We psychiatrists often make the mistake of labeling the pursuit of monetary gain a “compensation neurosis” and thereby forget or ignore the problem underneath having to do with a self-image reduced by the traumatic experience. We may overlook the depression and rage suffered as a result of that reduction of self-esteem and we may ignore our own anger that a man should get money because he has depreciated himself. It is circuitous reasoning, then, to say that the drive for compensation is a cause of the neurotic complications rather than a consequence of them. We can easily recognize that the struggle with physicians and

governmental boards over the award of compensation builds the resistances in the patient and, in fact, becomes a part of him, a new way of life, and even a world-view, not because his symptoms are designed to justify, but because he finds no other way of helping himself.

There are several other factors beyond the oversimplified one of secondary gain which have shaping effects on reconstitution after the disorganizing and regressive aftermath of impact. These factors toward a pathogenic or healthy remaking of the personality include the following: The form of object relations and the richness and effectiveness of communication in reconstitution; the modes of emotional expression and regulation; the "defensive style" emerging in the reconstitutive phase; the consciousness of the self-emerging in the remaking. There is also the use of the traumatic experience as a screen in the same way that an early memory, a screen memory, is used to account within the self for an emotional disposition and conflict which actually preceded the trauma.

The most direct expression of the problem of object relations in reconstitution is when the person under stress and feeling helpless wonders whether he will be of use to people again, whether he will be attractive, acceptable, and wanted again. That idea, from the disorganizing and regressive pathogenic forces in recovery from trauma, reinforced by other physical or psychological changes in the person, may

continue into the reconstitutive phase in the form of self-doubt in relations with others, and therefore less willingness to participate. A parallel force in the direction of less gratifying relations with others comes from the lack of capacity to turn outward, to invest energies in relations outside of the self, because of feeling a need to reserve these energies for protection and vigilance against recurrence of the trauma. It is common, for example, that sexual interests after a traumatic experience will be diminished. It appears in these cases that somehow the inpidual feels unable to afford such object-directed feelings and is conserving all his resources for tending to and defending the self. The same kind of constriction and degree of withdrawal of libido apply to other areas of interest: vacation, hobbies, social activities, and so on.

When we can observe reconstitution in cases of physical injury from a terrifying accident, the restoration of object relations from the stages of disorganization and regression appears to be predictive of the strength of the process and the degree to which the inpidual will become effective in adaptation. The deepest sorts of pathogenesis after trauma arising in the phases of reconstitution are associated with feelings of self-doubt and with doubt or lack of trust of others. The impact of the stress or trauma appears to excite most intensely these twin doubts: of the self in relation to others and of others in relation to the self. The restoration of both kinds of confidence seems deeply intertwined with the new

organization of the mind. We cannot say whether reorganization depends on strength in gaining and keeping object relations, or the reverse, or whether there is a more complicated interaction of the two.

Through the family, and in the psychological milieu of a medical or surgical ward, the quality and significance of human relations for the reorganizing psyche of the traumatized inpidual are eminently influenceable. The case of the young woman who was not told of the loss of her friend and was kept in a kind of isolation with the best of intentions, and the case of the older woman whose last and best hopes for a wedding seemed dashed, are examples of the potential for modification of pathogenic currents in the process of reconstitution. When the members of the treatment team are sensitive to these aspects of healing, and when they are educated to intervene intelligently, it is possible to lessen self-doubt and mistrust of others in the re-establishment of mature human relations.

The principal affects left over from trauma and possibly causing pathological reconstitution are anxiety, depression, and anger. Anxiety is easy enough to understand. The experience has most likely been fearful. The overloaded mental organization may not have thoroughly processed the fear, and it remains as an anxiety which forces the person to act as though the traumatic situation were still active or would recur at any

moment. Our previous discussion has also implied the persistence of anxiety from old problems and conflicts reawakened in the experience. Gradually, during reconstitution, anxiety will find differentiated modes of expression. It attaches itself to and reinforces doubts, mistrust, anger, or irritability, and other manifestations of the reorganized personality, making the clinician's job of finding the anxiety and disclosing its sources more difficult.

Depression may arise from the sense of loss after trauma. There may have been real losses in the traumatic event, of other persons or parts of the victim's body. This feeling also may come from guilt after trauma with a turning of anger on the self. Its most obscure form, and in the findings of our studies of physical trauma the most pervasive, comes from the notion of loss of invulnerability, the feeling of powerlessness, the disappointment, and sense of personal weakness, from the impact of the stress. This kind of depression is like a developmental problem in which there is sadness about losing a part of the self in going on to a new phase of maturity. For many victims, this sadness is brief, but others never quite regain their confidence from the loss of invulnerability. The unrealistic sense of weakness becomes a hidden and obscured part of their personalities in reconstitution.

The problem with anger is its channeling and means of expression.

Most trauma victims have it in considerable quantities. Often, it seems that anger matches the violence of the unfortunate experience, as though the victim had been transfused with it. The danger of the victim's anger is that it seems to him to interfere with the object relations which he needs. He is afraid that the anger will bring about retaliation from those from whom he needs help. Thus, the problem with anger threatens the recurrence or at least the reawakening of the traumatic situation. The disposition of quantities of aggression in trauma victims can be followed in their violent dreams. The problems from this aggression can be responded to therapeutically by understanding of these fears.

Kernberg has shown the emphasis in borderline patients on what he calls "first-order defenses." Denial, projection, and reaction formation are first-order defenses, in contrast to isolation, rationalization, or affectualization, which are more "sophisticated" defenses. First-order defenses, especially denial, appear often and strongly in trauma patients whose defensive style is leading toward a pathological reconstitution. The young woman whose boyfriend died had her defense of denial massively joined and reinforced by the family, and this defense became a highly structured and sizeable component in the reorganization of her personality. Projection, mainly about feelings of responsibility for events, is a strong reshaping force with pathogenic consequence. Finally, reaction formation to feelings of hostility from what has happened causes

a more rigid and brittle sort of person from the traumatic process. The settling-in of these defensive styles employing first-order defenses makes therapeutic resolution difficult.

Outcomes

The long-term result of these psychodynamic processes is a reintegration of the personality, either along the lines of the previous integration or with a chronic neurotic adjustment. Occasionally, there is improvement in personal integration from resolution of pre-traumatic problems as a result of realizing new ways of living and new insights from the traumatic or stressful experience. A chronic psychosis seems to be rare.

In most cases, the process of reintegration includes a working through of the traumatic episode in a verbal form, using the inpidual's memory of the events. This is a reconstruction in which the happenings and feelings are put in place. The struggle with anger or helplessness may be remembered in realistic ways, resolving guilt or shame over the feelings and seeing them in a new light. One of our patients was an electrician of considerable experience who worked over and over on the question as to why he had been so inexpert and foolish as to have allowed a piece of conduit in his hands to come in contact with a live

wire. He could never answer the question but he had to confront himself with it to avoid this mistake from happening again.

The chronic neurotic adjustment is accompanied by persisting symptoms which developed as a defense against the traumatic anxiety. Commonly, these consist of a conversion type of hysterical neurosis, or a depressive neurosis, or a mixture of both. Less commonly, the persisting symptoms are of other types of neurosis, such as anxiety neurosis, or of psychophysiologic illnesses. Alcohol addiction sometimes develops as an attempt at self-treatment of anxiety or depression. Hyperthyroidism has been noted to ensue after an acute emotional trauma, and peptic ulcer occasionally begins during the reintegration after acute or chronic stress. Chronic reactive aggression or paranoid hostility are occasionally seen as the continuing outcome.

Chronic persistence of neurotic symptoms may be related to secondary gains being obtained by the inpidual in a regressed state with a constricted ego. The secondary gain may be dependent or retaliatory, according to the unconscious motives in seeking and obtaining compensation payments, a pension or other insurance, or some change in responsibility. When the trauma occurred at work, a phobia for the working situation may be contributing to dependency on the unearned income of workmen's compensation. The retaliation motive in the

seeking of compensation is particularly present when the employee felt exploited by his employers, in addition to being overwhelmed and rendered helpless by the trauma of the accident.

Sometimes, the action on litigation or insurance has been initiated by another member of the family or by a professional adviser (for example, a doctor or a lawyer). The complexities of secondary gain can be illustrated by cases in which the dependency or retaliation is directed toward the family member or professional adviser, who then helps to perpetuate the neurosis by pursuing compensation or other legal redress, or encouraging the traumatic victim to do so. For example, the wife of an injured breadwinner may have gone to work while her husband was incapacitated, contributing to a shift in the family equilibrium. This shift may further a regression in which he becomes like a child or a substitute mother in the home, dependent on his wife, or retaliating for her assumption of his role. The wife may then push for compensation or insurance to reduce her own load.

If there has been painful physical injury with the acute emotional trauma, the pains may persist as sensory conversion symptoms, imposing what appears to be a physical disability, defending against the return to work, and against satisfactory rehabilitation and reintegration. If there is major physical disability after recovery from the acute effects

of the injury, there may be a similar limitation to the reintegration of the personality. The inpidual is denied the opportunity of overcoming the phobia for the working situation and mastering his traumatic anxiety more completely. The crippled inpidual, more dependent on others than he was before the trauma, has a more difficult task to readjust and is more likely to present chronic depression or irritability.

In brief, there is a range of end results in behavior, character, and neurosis. The similarities and differences in these end results are understandable from our general theory of psychic stress and from the varieties of stress which occur. The end results are determined by factors in the various stages of the clinical process, through pre-stress, impact, disorganization, regression, and finally reconstitution.

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