

INDIVIDUAL REACTIONS TO COMMUNITY DISASTER
THE NATURAL HISTORY OF PSYCHIATRIC PHENOMENA

With best regards
Prof.
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There is an extensive psychiatric literature on individual behavior under stress, this having been greatly augmented during the last war. It is possible to consider the content of this material along 3 main axes:

1. Reactions: the psychological states associated with the stress situation.

2. Factors: the various kinds of circumstance said to contribute to the reactions observed.

3. Psychodynamics: character and mode of operation of the alleged relationships between the normal or abnormal reactions observed and the factors contributing to them.

Many types of *reaction* have been described.² They range alphabetically from anxiety and apathy, through exhaustion panic and psychosomatic reactions, to suicide and traumatic and war neuroses. The *factors* have also been described from various points of view. They range from manipulative activity, apprehension, anticipation, through fatigue, group identification, helplessness, to leadership, noise, and training.

Again, there are a number of theories concerning the *psychodynamics* of the individual phenomena. Adler (1) has contributed a lucid development of the concept of "fear" and "conflict neuroses" in reaction to acute stress as put forward by Symonds (20). Fairbairn (6) has emphasized overdependence upon home and family surroundings and

Lidz (12) stressed the relationship of a background of broken or distorted homes to the Guadalcanal casualties. Gillespie (8) has discussed the rôle of conditioning, and Goldstein (9) has presented his conception of a psychological state of "catastrophe" following acute stress. The rôle of latent homosexual trends has been outlined by Kris (11) and by Schmideberg (17). Kardiner (10) has discussed his view of the psychodynamics in terms of "ego contractions," and an inhibition of techniques for environmental mastery as a consequence of overwhelming stress. Importance has been attributed to the operation of repressed aggressive impulses by Stengel (18), by Rickman (15), and by Burgum (2) in her discussion of the relationship between fear of explosion and aggression. The question of "mental breaking points" has been discussed by Dynes (5). Roberts (16) relates the symptoms of a number of cases of battle anxiety to the unconscious presence of the death instinct. Rickman (15) has outlined the changes in theory between the 2 wars with the shift from emphasis upon conflict of instincts to emphasis upon the "kind of emotional bond existing in the patient's mind to objects (people) in whom he is interested." The conflict is seen "not . . . in abstract terms of instinct but in terms of concrete object relationships." General reviews of the various theories have been made by Maskin (12), Miller (13), Gillespie (7), Dunn (4), and others.

In addition to these 3 axes as described, reactions, factors, and psychodynamics, it has appeared necessary to add a fourth of some importance. This is the "natural history" of the process during which these reactions are observed and during which the alleged factors are operating. A description of this natural history with respect to psychiatric phenomena in acute community disasters, and a discussion of its relevance for this and other psychiatric research, is the purpose of this paper.

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² The following is not intended to constitute any review of the literature. Various examples are cited only to illustrate the basis for a division of the material along the axes described. Specific references are quoted in discussing the psychodynamics because of the close relationship between author and theory.

II

The research program upon which the following material is based has been in progress for over a year and is divided into 5 overlapping phases:

1. Review of the literature.

2. Field survey.

3. Experimental investigation, which is set up for the purpose of studying hypotheses, gained from the first 2 phases, in an experimental setting with individuals and groups, and is intended to contribute toward increased definition of the findings.

4. Interview-schedule and questionnaire. The purpose of this phase is to determine what Canadians of various economic, social, and occupational classes *think* they would do and why, in various situations of community disaster and personal stress. Such material may reveal significant correlations or discrepancies—between “ideal themes,” phantasies or beliefs, and actual behavior—which would increase our understanding of the fundamental dynamics involved in responses to disaster.

5. Conclusion—thought of not only as a set of recommendations or conclusions, but also as leading to further significant questions for research.

Field survey is the current main emphasis, and has furnished the material from which the data for this paper have been obtained. It consists of on-the-spot observations by a mobile team of psychiatrist and sociologist. This team undertakes immediate study of community disasters wherever they have occurred in Canada, following notification by a system of informants across the country. Clinical psychiatric interviewing, lasting on the average 2 hours, apart from follow-up study, is the method used in field investigation of the individuals involved—survivors and others. The description that follows next is based upon field survey in 4 disasters—2 large fires involving apartment-house areas in towns of quite different social structure, a marine fire (the S.S. Noronic), and a flash flood. ^{Went Vancouver?}

III

In the pattern of individual reactions³ to an acute disaster, at least 3 overlapping

³ Group phenomena are not considered primarily here, although their investigation is an integral

phases can be distinguished: (a) a period of impact, (b) a period of recoil, and (c) a posttraumatic period. Each of the 3 periods may be characterized according to stress; time—duration and perspective; and psychological phenomena.

Stress.—(a) The first period is characterized by the impact of initial stresses and continues until these stresses are no longer operating upon the individual or group. It is the period of maximal and direct effect of initial stresses. (b) The period of recoil is characterized by a suspension of initial stresses, and thus begins when the individual has succeeded in avoiding their direct effect for the moment at least, by one manoeuvre or another, such as escape. Some stresses may continue during this period (*e.g.*, cold, injuries incurred during the first period, etc.) but from a psychological point of view, and relatively in terms of intensity and type, the stresses are suspended during this period.⁴ (c) The stresses of the posttraumatic period are derivatives of those of the initial period of impact and are more obviously “social” in nature. This is the period during which first full awareness is possible of what the disaster has “meant” in terms of loss of home, belongings, financial security, and particularly of bereavements. It begins after the security from initial stresses has been first fully established, and when the individual comes to face, once again, the matter of daily living but in an environment altered in one or several crucial aspects.

Time.—First with regard to *duration*, (a) that of the period of impact may vary within fairly wide margins. However, for the acute catastrophe it may last for only 3 to 5 minutes, to 1 hour. The period of impact in the case of the marine fire was about 3 to 6 minutes; in the case of the flood, about $\frac{1}{2}$ to $1\frac{1}{2}$ hours. (b) The time duration of the period of recoil also varies, but to a

part of the research. Some aspects of these have already been reported (21).

⁴ Further stresses may be of such a type and severity as to impose a prolongation of the first period of impact; or put in another way, as to produce a second impact immediately following the first, and thereby postponing the period of recoil for varying periods of time. In this discussion, however, the progression following an *acute* stress is described, and the progression in the event of prolonged or repeated stresses will be taken up at another time.

smaller extent apart from abnormal reactions, being determined more by individual differences than by the nature of the stresses. (c) The posttraumatic period lasts, hypothetically at least, for the remainder of the person's life, and includes the period of rehabilitation.

Second with regard to *perspective*, it appears that there are differences from one period to another which raise some interesting and possibly important questions. These differences in time perspective go hand in hand with the way in which stresses become apparent to the individual. (a) The time perspective of the period of impact concerns the immediate present, responded to automatically. (b) That of the period of recoil concerns the immediate past, responded to by the first overt emotional expression. (c) The time perspective of the posttraumatic period concerns the past, the present, and the future. A consideration of this concept raises further questions—*e.g.*, Is there any difference in the time perspective between those who show "appropriate" responses to the stresses and those who respond inappropriately or abnormally? Is there any difference in this regard between the "predisposed" and those "not predisposed" and are any certain habitual time perspectives identifiable in the "predisposed"? What are the factors involved in the determination of time perspective? Has the knowledge of such factors any application for the management of an acute stress situation?

Psychological Phenomena.—The following is a summary of the main trends observed. (a) During the period of impact, reactions separate into 3 main groups. One group, of about 12-25%, are what might be described as "cool and collected" during the acute situation. They are able to retain their awareness, make an "appreciation" of the situation, formulate some plan of action, and carry it through. A second group, representing what might be called the "normal" reaction to the period of impact and making up about $\frac{1}{3}$ of the survivors, are stunned and bewildered. They show certain characteristics during this period: a definite restriction of the field of attention; lack of awareness of any subjective feeling or emotion although manifesting the physiological con-

comitants of fear; and automatic or reflex behavior. The last group, of about 10-25%, show manifestly inappropriate responses—states of confusion, paralysing anxiety, inability to move out of bed, "hysterical" crying or screaming, and so on.⁵ (b) During the period of recoil, the majority of survivors are seeking shelter, sitting in or pacing about hotel lobbies, moving into the homes of friends or relatives, driving in taxicabs or ambulances, obtaining temporary shelter and care, or giving an account of their experiences for the first time. During this period there is a gradual return of self-consciousness and awareness for the immediate past. Subsequent recall is more complete for this period, but still not absolutely so. It is the period during which, for the majority, the first overt emotional expression occurs, and during which they first experience a subjective awareness of feeling or emotion—*anxiety, fear, anger.* Women may have typical alternate periods of crying and laughing, with some disturbed overt behavior. While being driven away from the disaster, they may have a "good cry." These reactions have been described before in part and it appears that this is the period in which they occur. During the period of recoil, the majority of survivors achieve their first awareness of what they have just passed through—and the disaster first achieves this limited perspective. One man, who had behaved adequately during the period of impact, dragging his unconscious wife along a smoke-filled hallway and down several flights of narrow, smoke-filled stairways, was unable to describe any feelings, to give any account of what he had seen or done, or how he came to do what he did. Going into a hotel lobby, he at first appeared calm though uncommunicative, unresponsive, and preoccupied. He went to use the phone to call some friends and found himself unable to talk,

⁵ The psychological phenomena of this period as described have an important bearing upon other developments, both during this period and subsequently. These include the evolution of hostility and its attendant scapegoating, the dynamics of initiative and leadership, the dynamics of guilt as may develop subsequently, and the function of group dynamics with respect to the individual. Because of limitations of space, these considerations have been omitted from this outline. Some have been taken up elsewhere(21).

experiencing an acute surge of subjective anxiety. He burst into tears, cried for several minutes, then said he felt better, showing a good deal of trembling and a need to talk of his experience. This is typical, although subjects may not burst into tears, and there is a need to talk or "ventilate" during this period, to get angry at someone or to express themselves in some way. The need to ventilate is associated with childlike attitude of *dependency*, which is an essential ingredient of the phase. Dependency may be precipitated in previously uncommunicative and unresponsive survivors by any genuine act of reassurance or aid on the part of people dealing with them. They want to be given something—coffee or a blanket—or to be looked after, and the importance of the giving and nursing appears not so much related to the actual kind of aid as to the psychological meaning of being cared for. When one talks to survivors some time afterwards, they describe these attitudes with some amusement, at the same time stressing the real and compulsive character of their needs during the earlier phase. In most, the period of dependency is transitory and even a day or 2 later the survivor may be quite unwilling to talk as freely as he had earlier. His manner is again fairly independent and he may be quite unwilling to accept help even though he needs it badly.

These attitudes of childlike dependency during the period of recoil are associated also with a *need to be with others* and a disinclination to be left alone. Although group formation is an important feature of individual responses to disaster, group characteristics are quite different during the various periods. During the period of recoil, the group behavior is based upon the needs of the survivors to seek out other people, and yet at the same time is characterized by the instability of the groups so formed among the survivors. There is a definite desire and need to be with others, and to achieve a stable, supporting interpersonal environment. The initiative for this, however, must come from persons other than the survivors who, though needing others, need them purely for themselves. Their social behavior amongst themselves at this time resembles that of very young

children during the phase of play in shifting groups.

This is only a brief outline, but the present impression is that the period of recoil represents a most important part of this process of response to disaster. Both the character of individual responses during this period and their management by personnel engaged in rescue and relief would appear to have a crucial significance for subsequent psychological events. The emphasis in this outline has been upon the general characteristics of the period rather than upon individual difference, or upon the various seemingly pathological deviations that have also been observed.

(c) The reactions of the posttraumatic period are closer to those phenomena with which psychiatrists are familiar and which are described in the literature as posttraumatic reactions. They include temporary anxiety and fatigue states, psychotic episodes, recurrent catastrophic dreaming, depressive reactions, etc. The more severe and prolonged reactions that are included in the general terms "traumatic syndrome" or "posttraumatic neuroses" become apparent during this period. Full presentation of these data must await completion of follow-up investigation.

IV

The description of the natural history, as has just been outlined for the individual in disaster, is felt to be a desirable step in psychiatric investigation, and in accordance with the nature of psychiatric subject matter, which consists of essentially interdependent phenomena arranged in continuous process.⁶

A study of psychiatric phenomena along the 3 axes mentioned at the beginning of this paper—reactions, factors, and psychodynamics—is insufficient, although furnishing necessary data. Without a knowledge of preceding stages, and of the position in the process, of the stage under study, the reactions and factors observed at any moment cannot be brought into proper perspective.

Psychiatric phenomena observed at any

⁶ In this context, the term "cause" refers to the regular association of the events under study with other antecedent phenomena in the process.

given moment represent a cross section taken through a process. For an understanding of the significance of phenomena observed at this moment, further knowledge is necessary of the position in the process of the point under study, and of the properties of preceding and succeeding phases. For this the delineation of the natural history is required and therefore this would appear desirable as a first step in research method.

This point of view is an implicit ingredient of the clinical method, and the arrangement of data in chronological sequence has been mentioned in relationship to clinical method by Cruikshank(3). The intention here is to make this methodological approach explicit for psychiatric investigation, to point out its relationship to other types of psychiatric data, and to undertake a preliminary development of its application in a concrete piece of research.

Returning to the clinical discussion of the 3 periods as already described, we can test the relevance of the hypothesis that this method has derived, by asking a number of questions:

Is it useful for field work, in organizing the observations? It allows us for the first time to see the various reactions as part of a natural process that can be investigated further with reference to its several stages. It permits us to organize the apparently amorphous material into a coherent picture.

Does it allow us to predict? It is possible to predict, for relief personnel for example, what the various stages of reaction will be, what to expect, and what criteria should be used for the identification of someone at any one of the various stages. One can predict what reactions should be expected at various periods during and following the disaster. This prediction can greatly increase the sensitivity and psychiatric value of relief personnel by augmenting their personal security and their understanding of the survivor. With further investigation, we hope to fill in the details of these predictions with greater accuracy and in greater depth.

Does it allow us to ask further significant questions or frame useful hypotheses? We can ask what will occur psychologically if the period of impact is greatly prolonged.

Is there any "critical" aspect to the duration of the period of impact? Has the duration, or intensity, of the period of impact any relationship to the reactions during the period of recoil or to recovery during the posttraumatic period? Is a period of recoil necessary in any sense? What are the psychodynamics of the period of recoil, what are the meanings of the various psychological phenomena as observed, and what is the relationship of such psychodynamics and such meaning to psychiatric reactions during the posttraumatic period? What is the rôle of various symbolic meanings that stresses may have in determining reactions during the period of impact or in later stages? How long can the period of impact be before a period of recoil becomes essential? Does a greatly prolonged period of impact affect the possibility of a period of recoil? To what extent are predisposition, training, anticipation, or time perspective important to the kind of feelings and attitudes that appear in the various periods? One could continue to ask many further questions, some of them possibly fruitful. The application of this methodological tool has allowed us to focus attention upon the dynamics of the process itself, without, at the same time, excluding other data that are relevant. In fact, the significance of, and perspective upon, other data appears to be enhanced by the approach.

Does the hypothesis allow us to frame hypotheses that may be carried through to experimental situations? Some of the above questions and others that have developed from this with respect to leadership, evolution of hostility, and group activities, for example, can be set up in operational terms for work with individuals and small groups in an experimental setting.

Finally, it is not felt that these periods are separate "things" or "entities." The hypothesis represents only a useful way of conceptualizing the data in terms of a process that can be more easily investigated and around which further hypotheses can be arranged. It is only one way of organizing the data—it is a fiction—and is useful only to the extent that it allows one to organize the data meaningfully, to predict how people feel and behave, and to assist us in treating them by an increased insight into the process

they are passing through. It is not expected to remain in its present form—including the terminology—but furnishes a starting point for further work and some conception with which we can disagree.

SUMMARY

1. Psychiatric phenomena with respect to individual behavior under stress can be considered to lie along 4 main axes—the *natural history* of the process, *reactions* and *factors* at various stages of the process, and the *psychodynamics* of the interrelationships between reactions and factors in the continuum.

2. The natural history of individual behavior in acute community disasters that have been studied has been briefly described. This appears to fall into 3 overlapping phases—a period of impact, a period of recoil, and a posttraumatic period—each of which can be characterized according to stress, time, and psychological phenomena.

3. The relevance of the natural history method for this particular investigation and for psychiatric research in general has been briefly discussed.

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