Chapter 3

THE INDIVIDUAL IN DISASTER

Summary

Although a disaster creates apparent chaos, it is the survivors who take hold and do much of the early emergency work of rescue, first aid, and search. Four factors determine what and how much a person will do: (1) his injuries, (2) his estimate of continuing danger (3) his experience and knowledge relevant to disaster, and (4) his position and role in different groups. The kinds of roles which are important for handling an emergency are family roles like that of father or mother, professional and organizational roles like that of doctor or policeman, friendship and good neighbour roles, and general helper role. Disaster fatigue refers to the six kinds of emotional reactions observed in extreme emergency situations: (1) normal reactions, (2) individual panic reactions, (3) depressed reactions, (4) overactive reactions, (5) grief reactions, and (6) physical reactions. There are four principles for the management of emotional reactions in disaster: (1) decentralization of treatment and management, (2) application of brief and simple methods of treatment, (3) a positive treatment atmosphere, and (4) registration and sorting. Eleven recommendations for treatment are: (1) physical rest and care, (2) ventilation of feelings, (3) involvement in tasks, (4) involvement with others, (5) role assignment, (6) uniting family groups, (7) isolation and restraint, (8) control of the overactive, (9) management of grief reactions, (10) handling older victims, (11) managing children. Nuclear disasters would probably exaggerate most emotional reactions and these may be confused with symptoms of radiation sickness. Factors which enable one to predict and prepare for emotional reactions are: (1) degree of personal involvement, (2) unexpectedness of the event, (3) suddenness of the event, (4) intensity of the event, (5) duration of the dangers, (6) perceived ability to cope, (7) information and rumour, (8) pattern of past dangers, (9) discrimination between dangers, (10) influence of others, (11) physical condition, and (12) the individual's emotional history.

Emergency Behaviour

The impact of a sudden disaster typically produces dramatic change in the whole scene. Man's familiar surroundings are reduced to an unbelievable shambles, inciting shock, terror, and apathy on the one hand and depriving him of the normal cues for adaptive behaviour on the other. Unexpected confrontation with injuries and death add to the shock effects and create a host of urgent problems to be dealt with. The social system collapses, from the damage and disruption of communications and as most individuals forget their organizational roles like that of fireman or Red Cross worker. The net results is often a picture of frantic chaos as individual survivors react to various aspects of the situation with a sense of extreme urgency and with little coordination. Wallace (1956) has described the scene immediately following the impact of a tornado as follows:

> ... sudden frantic efforts to rescue self and trapped relatives, screams and cries for help, hysterical laughing and crying, particularly (as reported) by teen-aged girls, people rushing up and down stairs, into and out of cars, houses, etc., checking on the welfare of others; shouting warnings to 'look out for the wire,' 'don't light any matches,' etc. Some able to walk, spontaneously ran or were dispatched to neighbouring fringe and filter areas to summon aid. These persons turned in fire alarms at boxes, called security agencies (police, fire, and hospitals) by phone, and brought in trucks, people with bandages and antiseptics, and other first aid resources. Other persons were busy in self or local rescue, usually of a relative living in the same or adjacent house. Even severely injured persons made efforts to extricate themselves, to summon help, to estimate the seriousness and character of their own injuries, and to give instructions to rescuers on what to do and not to do.[1] (pp. 58-59.)

This picture of the first moments after the impact of a disaster would make one wonder how the survivors would ever make out with the problems of rescue and aid, and how they could re-establish some coordination. How do people bring order out of such chaos?

Some authors have described the first minutes after impact as a period during which survivors take an inventory of their situation. However, it is clear that very few persons do this in any purposeful manner or with any awareness of deliberately assessing the situation. They do not survey the situation, make a decision, and act; rather they react and respond to the immediate and the obvious. Apart from the small proportion who remain in a state of shock or apathy and respond very little, there are two kinds of things in terms of which survivors react at this point: some, like parents, typically respond in terms of their roles, as father or mother, and actively seek out and care for family members; others responds to the physical situation and to other people who are in their immediate surroundings, often in the role of a "helper". As the survivor responds to one aspect of the situation and another, he gradually builds up a picture of it which enables him to act in a more discriminating and purposeful manner. Then he may start to check on the welfare of neighbours, to examine his property, and to offer his assistance to various emergency and welfare groups and organizations that are beginning to form. Nevertheless, the typical survivor does not take anything like a formal inventory of the situation and try to get an overall

[1] From THE WORCHESTER TORNADO: An Exploratory Study of Individual and Community Behaviour in an Extreme Situation, Publication # 392, Disaster Study # 3, National Academy of Science–National Research Counsil, 1956, $2.50.

picture of it. More often it is local emergency personnel and agencies which have not been injured or otherwise immobilized who initiate some assessment of the situation and attempt to communicate this to a headquarters or to associated agencies in nearby communities. When emergency agencies move in from outside, the process of assessing the damage and needs is speeded up. In the end, inventory is completed by the relief, welfare, government aid, and insurance agency personnel who appraise the losses, provide for rebuilding, relocation, and compensation.

The survivors in a disaster generally do rather well in handling the immediate problems of extrication, rescue, and first aid. In fact, several studies have shown that the people who lived in the impact area did most of the rescue work themselves before organized aid from outside was on the scene. Four factors determine the kind and degree of adaptive emergency behaviour which an individual will exhibit: his injuries, his estimate of the danger, his experience, and his roles in different groups.

1. **The nature and extent of an individual's injuries.** The seriously injured are usually not able to do more than offer information about their condition, and they may suffer from physical as well as psychological shock. A few of those with minor injuries may be preoccupied with them, but others will ignore them. In general it will be the uninjured who are most active with emergency tasks.

2. **The individual's estimate of the continuing danger.** If a person thinks there is further danger from fire, explosions, or radioactive contamination, his emergency behaviour is more likely to be limited to helping himself and his family and getting them out of the area.

3. **The individual's experience, knowledge and skills relevant to disaster.** What a person can do in a particular situation is determined by how he sees the problem and whether he had the skills and knowledge appropriate for the problem. These are learned. If they have not been learned, the relevant behaviour will not be impossible unless a person has some knowledge or skill from which to start. Indeed, without previous experience he may be unaware that a particular behaviour is called for in a given situation. He has not learned to "see" and discrimite the stimuli that call forth or evoke that behaviour. For example, when a person observes a child having an epileptic fit for the first time, having never heard or learned anything about epileptic fits, he may be surprised and appalled at the sight, but he will not recognize the significance of the child's behaviour and will not know what to do. To take another illustration, the individual who has never seen, heard of or learned about fire engines will not recognize the possibilities in a fire engine nor know how to use them. On the other hand, persons who have experienced tornadoes will recognize the signs and act appropriately and with dispatch—as did the man whose story was cited in Chapter 1. Unfortunately—from one point of view—most people have not experienced a disaster and hence have not acquired some of the behaviours that would be useful. However, this is really not necessary. Most of us have some idea or experience of the basic emergency tasks, like turning in an alarm, putting out a fire, stopping the flow of blood, digging up rubble, and calming a person who is upset; some have the skills for dealing with hot electric wires and broken gas mains, and a few know how to set up and operated communication facilities; and emergency services personnel—police, firemen, Armed Forces, St. John Ambulance—usually have extensive training and experience in a variety

of emergency skills. How the particular individual copes with emergency problems is largely a function of learning or of being instructed and shown how on the spot.

4. **The individual's position and role in different groups.** If a man is with his family group, he will usually act like a father and husband, if he is a fireman and at the fire station he will generally do what is expected of firemen, and if he is physician he will typically take the role of a doctor. However, people are usually members of several groups, like the family, a work or organization, a club, a professional group such as physicians, a neighbourhood group, the whole community, and society in general. If several of an individual's social groups are involved in a disaster, what roles will he adopt, and in what order? Two things determine the answer to this question: (1) the extent of a person's identification with different social groups, and (2) where his social groups are at the time. And these conditions cut across one another. If an individual is separated from his main social groups when disaster strikes, his first thought will nearly always be for his family. If at all possible, the man will adopt the role of father and seek out his children and wife, and the women will assume the role of mother and seek out and care for the children. In such circumstances, family roles take priority. Even members of emergency agencies and of professional groups like physicians usually look out for the welfare of their families first; helpers who move in from the fringe area check on their families first. When the safety and welfare of family members has been assured, the women typically stays with them to provide care and protection, while the father may take up one of his other roles, like that of friend, good neighbour, his professional role of policeman or physician. The typical progression is from family to close relatives, to friends, neighbours, and only somewhat later to organizations and the community as a whole. Those who have had close ties with relatives and neighbours, were active members of local organizations, and expressed loyalty to and pride in the community are more likely to go beyond their family roles to assist others and participate in emergency tasks with other groups and organizations up to the community level. Individuals with little identification beyond their families tend to show high self-and family-oriented activities during an emergency and are not so inclined to move out to help other groups. Survivors in rural areas have been found to exhibit this pattern also, presumably because they have not lived in a closely interdependent relationship with others. On the other hand, individuals who have a strong identification, through experience and training, with community oriented and emergency roles often move directly from their family role to their community role. Wallace (1956) found that 80 per cent of the uninjured who, after checking their families, turned to community tasks within about 15 minutes following the tornado in Worcester, were such men—including clergymen, firemen, a physician, and an individual who had been trained as an auxiliary policeman.

If an individual is with one of his main social groups in a disaster, he is likely to assume the role appropriate to that group, at least for a time. For example, the man who is with his family will take the family role, the physician in a hospital will probably carry on his doctor role, and emergency service personnel on duty are likely to maintain their roles as members of the organization. The factors which make an individual responsive to the group in such circumstances are his emotional involvement in the group, his training and experience in the group, and the degree to which he is integrated in the organizational structure of the group. Individuals who are caught up in some organizational role and are separated from their families may experience

intense anxiety and have difficulty in concentrating on the task in hand. This is the problem of role conflict, in which the individual is torn between loyalty to different reference groups. How such conflicts are resolved may be extremely important to the community. A state patrolman described the conflict between his roles as police officer, friend, and neighbour to the people of the community where he was stationed, as follows:

> As I drove around town after the tornado had passed I realized that the best thing I could do was to try to make contact with the outside and get help from there. I started out to drive to the next town and tried to call from there. As I drove out of town people I knew well would call me by name and ask me to help them find their relatives. Driving by and not stopping to help people who were looking to me as a friend was one of the hardest things I ever had to do[2]

The patrolman's decision led to his becoming the central figure in the development of organized and effective rescue work in that disaster.

There is one role that seems to cut across the group roles mentioned so far, namely, the role of helper. Members of our society have a strong tendency to respond to the less fortunate, and survivors in a disaster will often turn aside to help another who is trapped or injured. Even when the situation is particular frightening as it was after the nuclear explosion over Hiroshima, people fleeing from the city would stop at a cry for help and assist another victim. Indeed, emergency agency personnel like fireman and policeman, whether from the impact zone or nearby areas, have often been unable to maintain their organizational role but have pitched in to help with the immediate needs of the victims and carry out rescue and first aid tasks. In the case of such personnel, activation of the "helper" role slows down the development of organized efforts designed to appraise the overall situation, establish priorities, set up communications, and initiate a more orderly process of rescue, search, and aid. Survivors who generally do not go beyond caring for themselves and their families tend to sit and wait for assistance, to stand or wonder aimlessly, or to do inconsequential things like searching through old clothes. However, even these may respond to a need for help if they are given the proper leadership and direction. A fireman who worked in the devastated area following the Worcester tornado described both the random and dazed movement of such people, and their response to a clear need for help:

> There were quite a few people around, but they weren't in any particular spot: few here, a few over there. And everyone had, although not exactly a stunned attitude, a *shocked* attitude....when the officer told us that we were to lay our lines down to the pumper on lower Francis Street, I don't know where all the help came fom...that thousand feet of hose went down that street just about as fast as you could let it run;...the people around there were *very* cooperative in that case, very cooperative.[3] (p. 117).

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[2] From the significance of multiple-group membership in disaster, by L.M. Killian, *American Journal of Sociology*. Vol. 57, 1952, p. 312. Chicago: University of Chicago. Used by permission.

[3] From THE WORCESTER TORNADO: An Exploratory Study of Individual and Community Behaviour in an Extreme Situation, Publication # 392, Disaster Study # 3, National Academy of Sciences–National Research Council, 1956, $2.50.

If operation of role behaviours is the main basis for an orderly social system under normal conditions, knowledge of people's most habitual roles is also the best means of predicting what they will do under the stress of disaster. And it is primarily because role behaviours are actived—family roles, helper roles, organizational roles—that chaos gives way to order following a disaster.

Role behaviour may also be used to reduce emotional upset and to get an individual to behave more constructively and in a way that will contribute to coordinated emergency efforts. The tactic is to remind him of his role, or to assign him a particular role, and if necessary, start him off in it. This may simply involve asking or instructing him to do the job—"Your job will be that of a policeman, take over that block and see that no looting occurs"; You take these children and be their mother till we get things sorted out"; You are the oldest boy in the family, you look after your two young sisters like a big brother". A related way of helping an individual to bear a stress, to gain self-control, and to get organized is to remind him of and affirm the positive features of his self-concept. As an illustration, in the Springhill mine disaster a man came to a psychiatrist and sought help. He was disturbed and obviously flustered. The psychiatrist got his name and, detecting a slight Irish accent, told the man that the situation was no worse than his brave Irish fathers had endured and managed and that he should steady down and show the same tough courage in the present situation. The man straightened up and went off to do a particular job which he was assigned.

A number of considerations should be born in mind if the role assignment method is to be used. The role behaviour should be familiar and available to the individual so that he knows what to do; nothing will be accomplished by asking a 15 year-old-girl to take the role of a pastor or priest. The role behaviour must be compatible with the individual's personality: a shy timid man may not take the role of a policeman too well. Assignment of a role should include specification of certain concrete tasks as a means of getting the person under way. And it should be indicated with reference to what others the role applies—"to this group of children", in that group of injured". When possible, the group should also be informed that the individual in question will take on a particular role. It may be necessary in some cases to start the individual off in a role by doing the first role task with him. Finally, the process of role assignment will be facilitated if the individual doing the assigning is perceived to have respect and authority. The power of role assignment is demonstrated by the fact that persons with criminal records have behaved in an exemplary manner in emergency situations when they were given a responsible role.

Emotional Reactions in Disaster

The impact and consequences of a disaster produce a variety of emotional disturbances in most people. Shock, fear, apathy, disorganized behaviour, and physical symptoms like nausea are some of the more common reactions. Three main points should be kept in mind when considering emotional reactions in emergencies: most of them are "normal" under conditions of acute stress, they are usually temporary and pass off within hours, days or at most weeks, and they generally do not lead to chronic mental illness in the form of neurosis or psychosis. These are the essential findings in scores of studies of natural disasters, bombings, and atomic explosions. Nerverthless, "normal" psychological disturbances constitute a major problem in emergencies because they

hinder rescue, salvage, and recovery operations; they may overload the already congested first-aid and medical facilities and communication and evacuation channels, and they may become more serious and persistent if recovery processes are not set in motion.

The American Psychiatric Association Committee on Civil Defense (Drayer, 1955) uses the term **disaster fatigue** to cover the emotional reactions and psychological disorders produced by an extreme emergency. Six kinds of reactions have been observed: (i) **"normal" reactions,** (ii) **individual panic reactions,** (iii) **depressed reactions,** (iv) **overactive reactions,** (v) **grief reactions,** (vi) **and physical reactions.**

(1) One or more of a variety of relatively **normal reactions** are common in people who are subjected to acute stress like that involved in disasters. These include feelings of fear, excitement, discomfort, uncertainty, difficulty in thinking clearly, feelings of fatigue, tightness of the stomach or other muscles, occasional shaking or trembling especially of the hands, rapid heart beat, breathlessness, nausea and occasional vomiting, and possibly diarrhoea and urinary frequency. The term "normal" is applied to these reactions because they are common under such circumstances, they are typically temporary and no cause for real concern, and they do not call for special treatment other than occasional reassurance. Knowing that they can be expected will prevent undue concern when they occur. These normal reactions to acute emergency do not, properly speaking, come under the term disaster fatigue but are to be distinguished from the more severe reactions appropriate to the latter term. It should also be noted that the reactions which comprise disaster fatigue are not necessarily abnormal. Indeed, most of them are relatively "normal" under the circumstances. The distinction is that disaster fatigue reactions are disorders of a more serious nature and should be treated.

(2) Although **individual panic** is much less frequent than might be expected, it is important that it be identified because it may become contagious and lead to crowd panic. Individual panic is characterized by complete loss of judgement, loss of all concern for others, blindness to the reality of the situation, and uncontrolled motor behaviour. It may be exhibited by blind flight or by wild and aimless running about.

(3) **Depressed reactions** are those in which there is a marked reduction in behaviour of the individual. In extreme forms, the person may be immobilized and appear shocked, stunned, dazed and confused. The person in this state is typically very unresponsive to what is going on, he may not respond when spoken to or may simply shrug his shoulders and answer with an inconsequencial word or two. Such individuals are unable to help themselves or others and cannot take any responsibility that requires initiative. They are apathetic, and may putter about in an aimless or routine fashion that is not appropriate to the situation. Fortunately, most victims suffering depressed reactions recover fairly quickly or respond to appropriate treatment.

(4) Some individuals will display exaggerated **overactivity** in a disaster. They may exhibit a sudden outburst of activity; or they seemingly try to respond to all situations at once, dashing in and out of rooms, talking rapidly and making endless suggestions and demands, jumping from job to job, and often getting in the way.

(5) Individuals who lose a family member or loved one in disaster may suffer an acute **grief reaction**. Typical symptoms and complaints include: a marked sighing respiration; loss of strength and near exhaustion; recurrent waves of physical distress lasting from 20 minutes to an hour with chocking, tighness of throat, shortness of breath, empty feeling in abdomen, and intense mental anguish; feelings of guilt; restlessness and much moving about as if searching for something to do, but lack of ability to initiate and maintain organized activity; lack of warmth for others, and a tendency to respond with anger and irritability; and occassionally a tendency to take on the traits of the deceased (Lindemann, 1944). It is important to distinguish grief reactions from other disaster fatigue symptoms because they may require special treatment.

(6) The sixth kind of reaction includes **physical disorders** that are more serious and persistent than those included under the previous category of normal reactions. Specific complaints are persistent vomiting and diarrhoea, loss of appetite, fatigue and exhaustion, and symptoms like loss of memory or of voice, paralysis of a leg or arm, and psychological deafness or blindness. It should be emphasized that the latter disabilities are not "faked" but are just as disabling as if the individual had a physical injury.

Principles for Managing Disaster Fatigue

There are four main principles in the management of emotional reactions in disasters (Drayer, 1954-1955): (i) **decentralization of treatment and management efforts**, (ii) **the application of brief and simple methods of treatment**, (iii) **maintaining an attitude and treatment environment that emphasizes positive expectations of recovery**, and (iv) **appropriate registration and sorting of psychological casualties**.

(1) The principle of **decentralization** stresses the importance of bringing treatment to disaster fatigue casualties rather than evacuating them or taking them to a hospital. The aim is to give treatment as soon as possible and as near the disaster are as practicable. Wartime experience with psychological casualties had demonstrated the advantages of such a policy. Treatment on the spot prevents such cases from swelling already overloaded evacuation channels and medical facilities; it limits the movement of such cases and thereby prevents them from having a contagious effect upon others; it facilitates recovery by keeping the individual in contact with familiar and significant others and by providing the victim with the opportunity to participate in purposive and constructive participations in the group; and it is the only realistic and practical method of treatment in an emergency situation. To evacuate such psychological casualties and place them under medical care in hospital is to emphasize their helplessness and encourage them to adopt the role of a patient. This will often hinder recovery. Immediate treatment of psychological casualties has the advantage that it catches the condition while it is fluid and reversible and before it has hardened into a more chronic pattern of behaviour. Early cases are more easily influenced by the simple methods of suggestion, reassurance, and directed involvement with familiar others and concrete tasks. Treatment in or near the disaster area also has the effect of emphasizing the temporary nature of such disturbances, and will thus counteract unrealistic concerns and fears about their condi-

tion. Finally, if survivors can be revitalized on the spot they can be an important source of rescue workers. They may be particularly useful in the situation because they are familiar with the place and people.

(2) The second principle in the management of disaster reactions emphasizes **the use of brief and simple methods**. Not only do complicated programs of treatment require more time, professional personnel, and special facilities than would be available under disaster conditions, but military experience has shown that such methods often increase the patient's dependency and need for support, care, and treatment, and as a result often produce mediocre results. On the other hand, when brief and simple methods are used with the objective of restoring the previous level of functioning, the outcome is generally better and more quickly attained.

(3) The third principle is that of providing a **positive treatment atmosphere**. First aid personnel should have an attitude of confidence and positive expectations of recovery. If emotional reactions and feelings of helplessness are treated otherwise, that is, with undue attention and the attitude that the victim has something serious and may require prolonged treatment and help, this will merely encourage him to adopt a helpless patient role. People suffering from disaster fatigue are essentially in a fluid condition and will tend to choose the behaviour that is expected of them. If the treatment personnel and environment emphasize anxiety, doubt, disability and illness by word or action, the victim's symptoms will be maintained rather than alleviated. By contrast, if the victim's feelings, reactions and behaviour are accepted calmly and as the expression of a temporary incapacity from which quick recovery is expected, this will facilitate recovery and rehabilitation. It should be emphasized that this "message" of positive expectation is generally conveyed more by attitude and action than by words as such. Hence personnel responsible for treatment must understand the nature of psychological reactions to disaster and themselves accept the temporary nature of such reactions.

(4) It is essential to **register and sort psychological casualties** as they are treated. All such casualties should be identified in terms of name, address or organization, type and severity of symptoms, location at the time of the disaster event, and disposal. The latter point of information should tell where the victim has gone or was sent in order to facilitate relocating him should the need arise. Sorting is a matter of assigning the victims to different locations, groups, or tasks, including the referral of more serious cases to first-aid posts and other medical facilities. Registration data should be forwarded to a headquarters as soon as possible. Three purposes will be served by having adequate procedures for registration and sorting of psychological casualties. First, the random and uncontrolled movement and searching of people may be reduced significantly and medical facilities will be less congested by such people and by casualties that really do not require medical treatment. Second, the assistance of recovered psychological casualties and those who seek them may be enlisted in emergencies tasks if they know what has happened to their loved ones and where they are. This is especially important in the case of family members. Third, locations of each victim at the time of impact plus information as to his present whereabouts may be vitally important for follow-up investigations and treatment. Such information would be crucial in the case of a nuclear disaster.

Recommended Treatment Methods

The following treatment methods have proven effective with most cases suffering disaster fatigue symptoms.

(1) **Physical rest and care** may be indicated for many psychological casualties. Even a brief rest with attention to concrete physical needs of hunger, pain, and other physical complaints is reassuring and facilitates recovery. The atmosphere should be one of positive expectation of rapid recovery. Warm milk, cocoa, and such drinks may aid relaxation. Because they may add to the victim's confusion and make him less responsive, sedatives should only be used as a last resort, and on the advice of medical personnel.

(2) Victims should be encouraged to **ventilate their feelings**. This involves a brief interview, as short as 5 or 10 minutes, with the idea of stimulating immediate recall of the experience and associated feelings, listening with genuine attention, sympathy, and acceptance. Ventilation of feelings in this manner releases the pressure and is a concrete step in the direction of re-establishing responsiveness and communication between the patient and his environment. It is not desirable to indulge in cheerful chatter and to offer the time–worn but useless advice to "cheer up", "relax", and so forth. Such an approach may serve to frustrate the victim and shake his confidence in the counsellor.

(3) Victims should be **involved in tasks** as soon as possible, either with a helper or under supervision. Purposeful activity on simple and concrete tasks helps to redirect attention and facilitates the development of self-control and better organized behaviour.

(4) The psychological casualty should be **involved with others** in some reciprocal fashion. The idea is to make him an active part of a group or social system-which will stimulate support, control, and direct his behaviour. It is important that the positive expectation of quick recovery be cultivated in such groups, otherwise the members may stimulate and encourage helpless behaviour in one another.

(5) If an individual is communicating and responsive to the spoken word, **reminding him of his identity** may help him to get his bearings and to start to respond in a constructive manner. Assigning concrete tasks in line with his role will help to get him going. For instance, the physician may be reminded that he is a medical doctor and requested to look after an injury; a teacher may be reminded of her teacher role and put in charge of children, and so on. This tactic should only be used when the victim is "ready" to assume some responsibility, however little, and then he should be supervised or have someone work with him for a time.

(6) Individuals with emotional disturbances should be **placed with those emotionally close to** them, that is, with family, friends or neighbours, when they are on the road to recovery. By reducing separation anxiety and providing victims with familiar faces, roles associated with those groups may be reactivated.

(7) For those who exhibit panic reactions, early isolation and restraint should be used to prevent them from disturbing and infecting others. If gentle firmness does not work, restraint may be necessary. Generally such a person will steady down in 5 to 10 minutes, when his attention may be directed to concrete tasks and helping others, under appropriate supervision.

(8) The energy of those with overactive reactions should be directed into specific and purposeful tasks. Because such persons tend to talk a lot and be outspoken, whether with expressions of resentment, recounting of rumours, or making suggestions, it is important to dissuade them from voicing such upsetting thoughts. One tactic is to tell them that responsibility for the disaster can be discussed later but that the immediate and urgent need is to help others and repair the damage. It may be desirable to separate them from other victims who would be upset by their behaviour.

(9) The methods outlined thus far are also appropriate for managing grief reactions. However, such cases may require prolonged treatment, over weeks. It is important to share the bereaved's feelings, help him to detach himself from the deceased and to develop an interest in others and in purposive activity. The few cases which become both agitated and depressed may require medication to reduce the risk of suicide.

(10) Older victims will usually respond to the above methods, but may not respond to treatment as quickly as younger persons. Because they may be more confused and unable to participate in emergency tasks, it may be important to provide them with more reassurance and supervision.

(11) The management of children does not require any new methods. Their reactions tend to reflect those of adults around them and may best be treated by keeping them with steady adults whom they know, preferrably their parents. Children may also be given small tasks and responsibilities as a means of diverting their attention and of getting things done. However they should be provided with constant supervision.

Psychological Reactions and Nuclear Hazards

A nuclear explosion could be expected to create special problems as far as individual behaviour is concerned. First, a larger proportion of the survivors in the impact area is likely to experience shock and emotional upset. Second, more of their familiar environment will be destroyed, leaving them without the cues, resources, and personnel for coping with the emergency. Third, the survivors will probably be aware of the dangers from radiation and this will greatly add to their anxiety and fears. Fourth, impact injuries and penetration wounds, burns, and especially radiation sickness will present special problems for diagnosis and treatment. And fifth, the continuing danger from radioactive fallout will pose a special threat.

As noted in the previous chapter, the special conditions which a nuclear explosion presents do not call for any new principles to explain how people will react. The problems are still essentially those of a

drastic shift in the demand-capability ratio both for individuals and the social system, of widespread shock, fear, and other emotional reactions following impact, and the task is that of promoting emotional recovery and the development of appropriate and coordinated coping behaviour. The destructive force and extent of a nuclear explosion will exaggerate these problems, but we are still dealing with injured people, people with fears and other emotional reactions, and with the problem of getting them to behave adaptively.

However, the two new factors of radiation sickness and knowledge of danger from radioactive fallout will be sources of additional physical and psychological symptoms, and of threat, respectively. The introduction of these factors will have an effect on the functioning of role behaviour in individuals, and on the emotional and psychosomatic reactions and symptoms which people display. Although there is no systematic evidence on such effects, we can infer some things from the limited studies of Hiroshima and Nagasaki on the one hand and from our knowledge of the effects of fear and of radiation on the other.

Survivors of a nuclear explosion are likely to exhibit exaggerated reactions of shock, fear, apprehension, despair, apathy, and depression, these may persist for much longer due to the extent of the destruction and losses, the bleaknes of the future, and continuing fear of radioactive effects. Under these conditions it may be much more difficult to evoke adaptive behaviour, at least of an organized and community-oriented kind. Family role behaviour is likely to be activated and maintained, but organization, emergency agency, and community roles may be more difficult to arouse. The possibility of panic behaviour is likely to be increased because of the terror of the impact and the continuing threat from radioactive fallout. On the other hand, this is not likely to lead to the destructive consequences characteristic of crowd panics, unless the community is located on an island or penninsula with limited exits. Moreover, assuming that family and helping roles will be activated as they were in Hiroshima, these will put a brake on mass flight.

It is unfortunate that many of the symptoms from radiation sickness are like those from disaster fatigue—and the time sequence is not very different. The earliest symptoms of fairly high doses are nausea and vomiting, diarrhoea, vague bodily discomfort, fatigue, and loss of appetite. These may occur within one to three hours of exposure. With doses of over 1000 rems, the victims may exhibit, within 30 minutes of exposure, diarrhoea, fever, lethargy, tremor and excitability, ataxia or lack of coordination in the use of arms and legs, convulsions, and intermittent stupor, and the victim may experience little or no pain. Differentiating some of these signs from acute disaster fatigue symptoms will pose a major problem for diagnosis and treatment. Moreover, fear and expectation of radiation effects will confound the picture further because people often develop some of the symptoms they fear, and they are not easily reassured. The problem here is difficult and delicate; it is that of reassuring victims so that they will be able to behave more adaptively in the emergency situation and not move immediately to overload medical facilities, and at the same time not reassure them to the point where they may overlook symptoms and so risk serious after-effects that early treatment would prevent or reduce.

The previous recommendations for the treatments and management of psychological casualties still stand, with special emphasis on the principle of adequate registration and sorting of all survivors in the danger area. Rest, emotional ventilation, reassurance, purposive concrete tasks, and re-establishment of primary groups will help to control and direct individual behaviour. Special methods of providing reassurance will probably be required. The information must be credible and realistic, frankly admitting the negative but stressing the positive. The individual should be given something concrete, like an appointment card, to guarantee that he will be given an adequate examination within a specified time. Emergency measures personnel should be clearly

identified by their uniform or badges so that they are recognized as experts and authorities. Reassurance should be simple and concrete, designed to enable the victim to discriminate between psychological shock reactions and radiation sickness--for instance, he can be told that if there was a concrete wall between him and the explosion, he and others with him are unlikely to have got much radiation and therefore any nausea which they experience within the first three or so hours is probably due to psychological shock; or, that those in particular areas may experience itching and burning of the skin, but this indicates beta burns from early fallout and is not itself dangerous to life, although they should seek treatment within so many hours or days.

Managing the problems of the diagnosis and treatment of radiation sickness, especially since all of those who experience disaster fatigue symptoms will have to be checked also, will be a formidable task and it is unlikely that the community's resources of specially trained personnel, facilities, and instruments will be sufficient to do the job in most instances. The solution to the problem is for outside emergency agencies to move in with their resources. Nevertheless, a bombed community would probably have to handle the post-impact on its own for short time at least. Again, adequate preparation, instruction, and training before the fact will prove the best means of handling such problems.

Predicting and Preventing Emotional Reactions

In this section we will review the factors and conditions which make for adaptation or getting used to danger and stress, or produce sensitization or increased fearfulness, which determine the kind and intensity of emotional reactions, and which contribute to an emotional upset which persists and impairs adjustment after the danger has passed. A knowledge of these critical factors can be used to predict, prepare for, and sometimes to prevent the more serious psychological problems in an emergency.

Degree of Personnel Involvement. Probably the most important factor in determining a person's reactions in a fear-producing situation is the degree of personal involvement. MacCurdy (1943) suggested the distinction between *near-miss* and *remote-miss* experiences in terms of their different degrees of personnal degrees of personal involvement. A near-miss involves direct personal involvement with physical injury, damage or destruction of the room or shelter where one is, or injuries and fatalities of loved ones and others near by. A remote-miss is that experience in which the individual experienced many of the sights and sounds of danger but came through with no personal experience of the damaging consequences. A near-miss has the greatest emotional impact, often producing shock, dazed stupor and outright terror at the time-in other words, the kind of reactions that are common among people in the impact zone following a disaster. The emotional after-effects of a near-miss are also more intense and persistant than those after a remote-miss. Such reactions include nervousness, jumpiness, fatigue, loss of appetite, difficulty in sleeping, nightmares, anxiety and tension. In addition, a near-miss sensitizes the individual to the danger signs that were associated with the experience, making him unusually apprehensive, jumpy, and otherwise fearful of such signs in the future. A remote-miss, on the other hand, does not produce as much emotional disturbance at the time, individuals usually get over the immediate effects within minutes, and they generally become adapted to the danger signs to some extent so that they pay less attention to similar signs in the future.

Remote-misses have important secondary effects, namely, those of increasing the individual's feelings of self-confidence, invulnerability, and morale. An interesting feature of feelings of invulnerability is that they are often accompanied by various thoughts and utterances such as "there hasn't been a bomb made for me yet", "Oldenburg is safe because Mr. Churchill has an Aunt living here", and various forms

of prayerful phrases. Apparently such thoughts or symbolic responses are reassuring because they were associated with relief from danger and with ultimate safety. However, if a near-miss should now occur, it often breaks down the feelings of invulnerability and the individual may feel that he is completely unprotected and quite helpless. It is as if the thought defences which he had build up are suddenly wiped out leaving him especially vulnerable without such supports.

As is so often the case, extreme forms of both sensitization and adaptation tend to result in a greater disturbance in the face of new stresses than does an adjustment somewhere in the middle. Janis (1958) found evidence supporting this proposition in a systematic study of patients about to undergo major surgery. A proportion of the patients exhibited very little or nor anticipatory fear or anxiety prior to the operation. They were calm, showed no sleeping disturbances at night, manifested no signs of worry or emotional tension, and made little effort to get information about the operation and its possible consequences. In many respects, they seemed to have feelings of invulnerability. However, when they were faced with the pain and other stresses involved in confinement and post-operative treatment, these individuals tended to react with considerable anxiety and depression, angry resentment, irritability and grouchiness directed against the doctors, nurses, orderlies and hospital staff, and expressed feelings of hopelessness and despair.

Another proportion of patients faced the operation as if they had been sensitized to the pain and possible consequences of a serious emergency. They expressed high anticipatory fear with much tension and anxiety and occasional outburst of tremblings, weeping, flushing, and so forth. They found it difficult to concentrate and complained of inability to sleep. They were jittery and nervous. After the operation, they typically continued to exhibit and experience a high level of fear and anxiety. In contrast to those who initially behaved as if they were invulnerable, these very fearful patients did not exhibit irritability and hostility toward hospital staff but tended to express feelings of gratitude and admiration and were continually seeking reassurance. In most cases such patients had a history of chronic and acute anxiety in response to a variety of danger situations, major and minor.

A finding of special importance was that it was most difficult to prepare the sensitized type of patient psychologically for the operation. However, only traditional forms of talking therapy and reassurance were used, and it is quite possible that a new form of therapy called systematic desensitization (Wolpe, 1958) might help many of these persons. Janis found that the adapted or invulnerable kind of person, on the hand, could be prepared for major operations by giving the patient realistic information and impressive warnings about what he would suffer and the related consequences, thus providing a mental rehearsal of the dangers, pains, deprivations, inconveniences and discomforts that were likely to happen. This apparently reduced the surprise and shock effects of post-operative problems and prepared the individual to interpret them in a realistic manner. This kind of preparation markedly reduced post-operative reactions in this group, the treatment acted like a kind of *emotional inoculation.* It should be emphasized, however, that such preparation of patients for acute stress experiences should be carefully planned and individually administered by well trained persons whom the patient looks to as an authority in the situation. It is quite possible that properly administered emotional inoculation would prepare people for other kinds of emergencies in a similar fashion.

Although experimental studies are lacking, there is widespread support for MacCurdy's theory of near–and remote-misses from studies on servicemen in combat and civilians in air raids in World War II. The phenomenon of adaptation to warning signs, when people did not experience direct personal involvement with drastic consequences, was very common. At the beginning of the war the majority of the British people, and especially those in London, expected to experience massive air attacks and they initially responded to air alerts by seeking shelter. However, as the months went by and very few bombs fell and because many of the alerts were false-alarms, many people began to ignore the air raids sirens. In addition, hundreds of thousands of those who had been evacuated from the cities returned to their homes. Even when the air blitz of 1940 started, although there was a noticeable increase in anxiety and fear at first, there was

a definite decline in fear among the general population as the blitz continued. In fact, of course, the great majority of the people did not experience near-miss bomb explosions, even when the raids were heavy and destructive.

Decrease in fear with successive air raids was also found among those who were not personally involved in drastic consequences in Germany and Japan. People seemed to develop a kind of detachment toward the risks that were presumably involved, somewhat in the manner that people have an air of detachment toward peacetime traffic dangers (Janis, 1952). Near-miss experiences, on the other hand, usually sensitized people to the experience of future bombings, and were largely responsible for the cases of emotional disturbance which turned up at first-aid posts and hospitals. It was also found that a high degree of personal involvement in a bombing attack was associated with decline of morale among the Germans.

Studies of soldiers in combat reveal similar processes of adaptation or sensitization. Men under fire for the first time were generally much more fearful, jittery and unreliable than after they had some experience with the dangers of combat. If their first experience was not too intense and did not produce too many directly involving near-misses, a battle unit was likely to emerge with increased self-confidence and morale and to exhibit greater steadiness on future occasions. If their first battle experience resulted in many casualties and near-misses, however, survivors were shaken up.

Unexpectedness of an Emergency. Whether a danger is expected or unexpected has a bearing on how much shock and emotional upset will be produced. The unexpected is much more disruptive. There is little that one can do after the fact, but much can be done in the way of mental rehearsal, training, and practice exercises in preparation for emergencies. Much of the shock and emotional impact will be prevented if there are no big surprises.

Suddeness of the Event. Sudden impact of a disaster event produces much more disruption of behaviour than does an impact which has a gradual onset. The problem here is that a person has no opportunity to adapt to the event nor to think of and take protective action. This points to the importance of an adequate warning period and training in response to warnings.

Intensity of the Event. The intensity or physical magnitude of both the warning signs and the consequences of impact in terms of destruction, injuries and deaths, has an obvious relationship to the reactions of the victims. Apparently the shear intensity and shrillness of the sirens in Great Britain during World War II initially evoked fear and contributed to the warning to take shelter. The sound of exploding bombs nearby had a similar fear-producing effect. As for the magnitude of the impact in terms of destruction, injuries and deaths, this will generally be correlated with the number of people who experience direct personal involvement. Moreover, the greater the magnitude of the impact, the more will a person's environment be shattered and drastically changed, thus depriving him of the familiar cues which ordinarily guide his behaviour in a steady manner. In general, some foreknowledge of the probable physical magnitude of an emergency will help to predict the extent and persistance of emotional reactions like shock, anxiety, and apathy, and thus to provide a basis for the planning of emergency measures. In addition, such foreknowledge may be used to prepare individuals so that the consequences are not so unexpected. This kind of knowledge is available with respect to nuclear emergencies and it is hardly necessary to state that it should be used in these ways.

Duration of the Stress. The duration of a danger period has a direct bearing on the frequency and seriousness of anxiety and fear reactions on the part of those othergoing the experience (Williams and Smith, 1949). It should be noted, however, that continued and repeated exposure to danger signs will typically lead to adaptation unless there is at least one acute experience like that which has been called a near-miss. Thus this factor interacts with the first one, degree of personal involvement. There is also evidence that if a person knows the probable duration of danger or threat, it will produce less disruption of behaviour and be tolerated much better. Presumably this is so because there is a fairly definite expectation of relief at a

particular time. Then a person can exhibit a kind of thought control over his own behaviour in the sense that he can say to himself, "Now there are just 6 more days,...and now just 5 more," and so contain emotional reactions for short periods at a time. Members of Alcoholics Anonymous use this method in controlling their drinking behaviour: they limit their efforts and expectations of self-control to one day at a time. A problem may arise with this technique if the time runs out and no relief appears. However, this can often be handled with realistic information and by developing a new definition of the situation and its probable time sequence, especially if this is done appropriately in a group situation.

Perceived Ability to Cope. Perceived ability to cope with a danger has an important influence on the emotional reactions that the situation produces. If a person can think of nothing to do that will reduce the danger and its consequences at least a little, he will feel highly vulnerable and be overwhelmed by a sense of helplessness. Moreover, his whole attention will be focused on the danger sings so that he gets maximum exposure to their disturbing effects. As a result, he may experience more fear than is really justified. Although incendiary bombs caused more casualties than high explosives in Japan in World War II, civilians feared the explosives more. One reason for this apparently was that the victims felt less than able to escape from high explosives and could do less to limit their damage. On the other hand, if a person has some courses of action and protective measures in mind, and especially if he then engages in such purposeful activities, he almost invariably loses much of his fear. Apparently this happens for either or both of two reasons: his action changes the situation somewhat and he interprets this as bettering the situation, and his attention gets turned away from the danger sings and hence he experiences a decrease in their effects. A simple illustration of the latter is when one is climbing a high ladder: while engaged in the purposeful activity of climbing, one's attention is on the task in hand, but if one pauses and looks down and around, fear surges up.

Apparently the American astronauts have a high level of confidence in their ability to cope with the very real dangers which they face when circling the earth, and this rests on their ability and training to think of and carry out some remedial action. They experience tension and fear, but this is controlled and reduced by deciding what to do and doing it. As one astronaut said,

> "I know this flight is more dangerous, but the training has been more rigorous. If I get unnerved, I'll fall back and regroup, then focus my attention on what has to be done." Another commented, "In a tight situation you have to stop, take stock, decide what you are going to do, and go ahead and do it. I have often told cadets that sometimes you have got to do something – even if its wrong. The main thing is to get your mind busy thinking and not worrying. When you can't do anything That's the worst time....Whenever I think of what might go wrong, I think of a plan to take care of it. Other than that, there is nothing I can do about it, so I see no point in worrying about it. I know the worry is still there, but is doesn't bother me any more".

Development of confidence in the ability to cope with danger is largely a matter of instruction and training in the kinds of remedial and protective behaviours that will have positive effects on the situation. When the danger is sudden and great, or immediately after the impact of a disaster event, many individuals may suffer from at least momentary shock and not be in a position to utilize their information and experience. However, when the shock passes, their fear and other emotional reactions will be less severe if they feel they can do something about the situation, and go on to do it.

It should be emphasized that there are many kinds of coping behaviour which will have this effect; two of the most important in disasters are doing something about the welfare of others, and seeking to communicate with the outside world and with those who can offer assistance. The miners who were trapped underground in the Springhill disaster found that hammering an air pipe in order to let rescuers know that

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From Psychological Responses of the Mercury Astronauts, by G.E. Ruff, and S.J. Korchin, In G.H. Grosser, H. Wechsler, and M. Greenblatts (Eds.), *The threat of impending disaster*, Cambridge, Mass.: M.I.T. Press, 1964, pp. 218-219. Used by permission.

they were alive took their minds off themselves and their potential fate. As another example, after an air raid on Cardiff in World War II, rescue workers started digging into the rubble of a former house when they thought they heard a muffled voice. After several hours of work they finally rescued a six year-old boy. He had been singing "God save the King" all the while, and did not seem too upset by the experience. His father, a former miner, had told him that if the men sang when buried in a mine they would eventually be rescued. Believing that this was so, and engaging in this purposeful activity, presumably protected this lad from the severity of the emotional effects that he might have experienced.

Information and Rumour. Verbal reports, whether factual, exaggerated, or simply rumours, about the destructive, injuries, deaths, and terrors which victims have suffered in disasters or bombing may increase apprehension and anticipatory fear in other people. This was observed in World War II when an untouched community was subjected to a large influx of refugees from a heavily bombed city. Apparently such reports have a sensitizing effect on people who have had little or no experience of similar situations, and who therefore cannot check the reports against their own experience. It would be important to prevent and conteract this kind of sensitization by preparing community members with whom evacuees will have contact, by giving them realistic information about the situation and telling them that the victims will probably give an exaggerated account of their experiences because of their personal involvement. Another possibility would be to isolate such victims until they have settled down.

Pattern of Past Dangers. If a series of emergencies occurs, such as repeated air raids, the pattern or schedule of these has an influence on people's reactions. It was observed in World War II that a succession of air raids led to greater emotional adaptation than did sporadic ones, apparently because there was spontaneous recovery of fear reaction if the raids occurred only now and again (Glover, 1942; Vernon, 1941). This was the case with remote-miss experiences. A succession of near-misses, on the other hand, was likely to be most disturbing (Schmideberg, 1942). Sudden changes in the danger signals or stimuli typically increase apprehension and fear. People who are adapted to the former stimuli are aroused anew. This may prove to be a mixed blessing. If people have adapted to a set of warning signals, to introduce new ones will probably be effective for a short time. However, if changes are repeatedly introduced, they will adapt to the changes themselves and be most difficult to alert with any form of warning. If a real emergency then occurs, anxiety is likely to increase but may be expressed as anger and resentment against the authorities. For example, when sneak raids began after the blitz on Great Britain in World War II people experienced a marked increase in fear. However, at the same time they were angry and resentful against the authorities for not preventing the sneak raids or providing adequate warning.

Discrimination between Dangers. Situations which makes it difficult for people to discriminate among danger signals, signs of reassurance, and cues which will enable them to take protective measures generally increase apprehension and fear. Air raids at night are in the category. People could not see what was going on, could not determine the nature and extent of the threat, and movement was hampered. When air raids began on Great Britain in World War II people could not distinguish between the sound of their own anti-aircraft guns and the exploding bombs with the result that the guns aroused as much fear as the bombs. When they learned to make this discrimination, their fears were reduced and indeed the sound of their own guns became reassuring.

Influence of Others. An individual's interpretation of any event and especially of danger signs is influenced by the reactions of others with whom he is in contact. If others are fearful, jumpy and upset, he will tend to "catch" their emotional reactions and behave in a similar manner. On the other hand, if his companions are cheerful, he will tend to share in the general optimism. A notable feature of this kind of contagious effect is that a leader, a recognized authority, or a friend has much more influence than "general" others, spreading fear if he is fearful or providing reassurance if he is composed. This phenomenon is most important in the case of children. Children typically do not exhibit any unique reactions to disaster, bombings, or other severe emergencies. Rather, their reactions tend to follow those of their parents or of other admired and respected adults with whom they happen to be at the time. This finding points to the primary methods for managing children in an emergency, namely that of providing them with a good example.

Individuals who are separated from their families or friends, who are alone at the time, or who generally do not have friends, are especially liable to experience severe anxiety in an emergency situation. Presumably this kind of situation increases feelings of helplessness. In addition, separation from loved ones may lead to acute concern about their safety. After recovering from the shock of a disaster, a first impulse of people who are separated from their families is usually to seek them out. In terms of reducing this kind of anxiety, preventing random searching for family members and friends, and cooperative action, it is very important to reestablish family units and at least provide them with authoritative information about one another.

Physical Condition. Any factor or condition which reduces physical stamina will make an individual more susceptible to emotional reactions under stress. Such factors include hunger, fatigue, lack of sleep, illness, and other deprivations and discomforts.

The Individual's Emotional History. The final factor which influences an individual's reactions under acute stress is his history of emotional disturbances. If an individual has been relatively stable in the past, especially under similar kinds of emergencies, he is likely to stand up better, suffer less extreme reactions, and to get over them sooner, even if he is then subjected to near-miss experience (Fraser, Leslie, and Phelps, 1943). On the other hand, those whose behaviour in the past has been characterized by anxiety, fear, and phobic reactions will tend to suffer exaggerated emotional reactions in a new emergency. The lesson here is that the best way to predict an individual's behaviour is to look at his behaviour in the past under similar circumstances. In effect this provides a basis for selecting individuals for key roles in emergency situations. It may also be possible to select out and prepare those who are susceptible to anxiety and fear, possibly by desensitization treatment (Wolpe, 1958).

In line with the above analysis of the determinants of emotional reactions in emergencies, it has been observed that people often behave in a way to control and reduce such reactions. Adaptation to the signs and consequences of danger is promoted by extensive curiosity behaviour, as manifested after natural disasters and after bombing raids. People learn to discriminate among cues as indicative of danger of different kinds and degrees, with the result that they behave more appropriately rather than exhibiting a generalized fear reaction. Victims of natural disasters or bombing raid tend to seek the company of others, thereby generally reducing feelings of isolation and helplessness and the attendant anxieties. In London during World War II those who went to collective underground shelters got more sleep, gained weight and were ostensibly less anxious than those who stayed in private shelters (Thouless, 1941). Coincident with seeking the company of others, people tend to communicate more freely during and after an emergency. They talk with casual acquaintances and neighbours and to strangers to whom they would normally have little to say. By recounting their experiences and sharing them with others, emotional tensions are reduced (Schmideberg, 1942; Vernon, 1941). In the case of air raids, it is notable that this increased communicativeness occurred only during and after the first few raids, apparently serving to facilitate the process of adaptation to the dangers. People tend to cultivate and practice attitudes, behaviours, and thoughts which ward off fear and anxiety, such as expressions of faith in God, or rituals and superstitions which are believed to protect them. Some adopted the habit of going to an air raid shelter under the least provocation, apparently believing that if they "did what they were told to do" they would be rewarded for their obedience. In Japan, western clothes were worn by many women because they believed that this would protect them against bombs. Possibly associating extreme danger with punishment, people in Germany, Great Britain, and Japan during World War II tended to emphasize moral and conforming behaviour as if to insure that they would have little or nothing about to which to be guilty and hence not deserve punishment. And it was observed in the bombed cities of Great Britain that many people were concerned to occupy themselves with "business as usual", thus engaging in some form of purposeful activity and turning their attention away from the dangers in the situation. Such behaviours serve to reduce anxiety and fear, and as long as they do not detract from adequate attention to real dangers and the appropriate protective actions, they will serve the individual well.

Suggested Readings

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