THE CONSEQUENCES OF DISASTERS FOR MENTAL HEALTH: CONFLICTING VIEWS*

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The Consequences of Disasters for Mental Health: Conflicting Views

As you all know, several weeks ago, there was an accident at The Three Mile Island nuclear power plant in Pennsylvania. Press accounts reported all sorts of things about the alleged responses of the threatened population. It is clear that public authorities were cautious and hesitant about taking certain actions due to their assumptions about possible reactions of citizens in the area. Both the journalistic accounts and official actions conveyed the idea that the endangered people were on edge, that the potential for psychological damage to the people involved was high. Journalistic stories even openly speculated about both the short and long term consequences of the accident on the mental well-being of the residents in the area.

Well, I cannot at this time report anything myself about the psychological consequences of the event in Pennsylvania. But the incident highlighted again a very important theoretical and practical question, namely—how well or how poorly do actual and potential victims respond to sudden extreme stress situations?

The answer to this question has crucial implications for public policy and tells us much about the basic nature of human beings and societies. However, what is the answer to the question? Do human beings react well or poorly? Psychologically, what can be said about the responses of human beings to sudden and unexpected great stress as would occur in a community disaster?

As we shall see, two markedly different points of view exist about the psychological consequences of exposure to extreme stress. Some students of the problem see the consequences as overwhelmingly drastic and negative. Others see disasters as not necessarily having either significant or unfavorable psychological effects. I shall not only indicate what the conflicting views are but will also try to suggest some of the reasons for the differences in opinion.

My remarks will not settle the controversy. They are not meant to do that. But hopefully, at the end of my talk, you will have a better picture of the answer, or more accurately, the answers to the question—what do disasters and other community emergencies do to the mental well-being of victims of such events?

However, before zeroing in on that question, I think it would be helpful to see the question and the answers in a larger context, and, thus, I will provide some background information.

First, I am going to talk briefly about the history of disaster studies. From this, you will see that my remarks come from a body of systematic thought and research in the social and behavioral sciences. This existing body of knowledge about disasters is unknown to most people.

Second, I will draw a distinction between what people believe happens in disasters and what actually happens. We shall see that regarding many matters,
There are myths and misconceptions about human and group behavior in disasters. Much of what is believed simply has no basis in fact.

If you are aware of the existing scientific and scholarly knowledge about disaster behavior and if you know how mythological certain beliefs about disaster behavior have been found to be, you will have a better context in which to see my remarks. I have been part of that stream of systematic social and behavioral studies into disaster behavior. I have learned that there is much mythology in the disaster area. I will try to be as objective as possible concerning the two points of view about the consequences of disasters for mental health although I do not come to this presentation devoid of a personal position. My position is that one of the existing views does not fully recognize the implications of what has already been learned about behavior in disasters, and contains partially mythological ideas about that behavior.

Let us look at studies in the disaster area. We do not have to look too long because scientific and scholarly disaster studies are basically a post World War II happening. Disasters are not new, but studies into them are. The lack of social and behavioral research into disasters until recently is an issue that need not detain us at this point.

Certainly, it has not been due to the rarity of disasters or the lack of individuals involved with massive problems of adjustment to extreme stress type situations.

Disasters have complicated the existence of the human race throughout recorded history. In anthropological and historical records, as well as in religious writings such as the Bible, catastrophes created by the natural elements appear along with war, famine, and disease as major causes of misfortunes for human beings. In fact, one of the Four Horsemen of the Apocalypse is characterized as disasters.

Worldwide, thousands of lives are lost each year as a result of natural catastrophes, and the social and economic impact of disasters is frequently crushing. Earthquakes in Third World and developing societies can leave horrendous post-impact situations. For example, in the Nicaraguan quake of 1972, 80% of the capital city was destroyed or physically damaged. At least 10,000 people were killed and another 20,000 severely injured, mostly in Managua, the capital. Most Managuans had family, relatives, or friends who died in the devastation. It is also estimated that 200,000 inhabitants, half of the city's population, were dislocated by the earthquake with most of them having to live temporarily in distant locations. Whatever the psychological consequences for survivors may have been, they obviously had to cope with and adjust to a very stressful event. One might also speculate about the aftereffects of the Tangshan earthquake of 1976 in China which killed 655,000 and injured over 700,000. In terms of casualties, this was probably the second worst disaster in human history.

Although American society has thus far been fortunate in never having been subjected to a catastrophic disaster of the magnitude just discussed, we are, nonetheless, not immune to continuous major, moderate and minor disasters.
For example, in the years 1972-1976, 207 disasters were of a magnitude requiring a Federal Disaster Declaration. These events involved the loss of hundreds of lives, disrupted the routines of thousands of victims, subjected the survivors to major traumatic experiences. It is, perhaps, not amiss to note that in all federally declared disasters, the National Institute of Mental Health, by law, has to help in providing crisis counseling and in otherwise assisting in the delivery of mental health services for the disaster victims.

Despite the frequency of disasters, the occasional spectacular catastrophe, and the variety of post-impact problems of coping and adjustment, our systematic knowledge about the social and behavioral aspects of disasters was almost nil until about two decades ago. Very few researchers bothered to study disasters. Our understanding of events depended almost exclusively on dubious selective anecdotal accounts and impressionistic news stories. Operational personnel and public officials involved in disasters and the few social and behavioral scientists who wrote on the topic worked with common sense notions and expectations—most of them incorrect and false as we were to eventually learn.

It appears the first attempt to apply social science concepts to the study of disaster was in Prince's research on a munitions ship explosion in Halifax harbor, Nova Scotia, Canada in 1917. During the 20's and 30's, there were occasional and isolated studies usually undertaken by a single individual. Little was learned in this sporadic research, and there was no accumulation of knowledge.

However, World War II and the bombing of cities stimulated a number of disaster-related studies, focusing on reactions under stress. While this work did not focus on human and group reactions to natural and technological disasters, it did provide useful observations on individual or personal reactions to crises. A number of the studies were systematic, comparative and guided by social science ideas. This line of research not only included studies on bombed British cities and wartime activities such as evacuation, but also included large-scale sample surveys conducted by the United States immediately after the war concerning German and Japanese cities which had been subjected to air attacks.

These studies were published; however, they were not particularly or widely noted at the time. The results were considerably at variance in regard to expectations and prevailing views on how populations dealt with extreme stress. The research showed, for example, that the civilian population in all the countries reacted remarkably well to wartime attacks and problems. There was not the widespread personal and social disorganization that had been predicted before the war. A few of the observations were that morale remained high, mental disorders did not significantly increase, unauthorized wild evacuations did not occur and suicide rates went down.

Some very intensive specific case studies, little known even today, provided a picture of impressive stability, resiliency and toughness on the part of very heavily stressed populations such as the survivors of Hiroshima. In a bombing where 60% of the population was either killed or injured, the
other 40% immediately tried to reestablish the routines of life immediately after impact. Little overt panic, disorganized activity or antisocial behavior occurred. The day after the bombing, survivors from the 12 banks got together and resumed banking services, one of the few standing steel companies resumed activities when 20% of the employees reported for work, the trolley lines were completely cleaned and some electric service was restored, as well as railway services and some of the phone system the next day. The tremendous physical destruction was not matched by any comparable social disintegration among the survivors.

Fortunately for disaster research, the results of the wartime studies were largely ignored and in the early 1950s, a more sustained and directed program of peacetime disaster studies emerged. They were stimulated and supported by various government agencies charged with the responsibility of handling hazards especially for civilians who might be affected by the new range of atomic and other weapons. During 1950-1954, a disaster research project involving field studies of actual disasters was undertaken by the National Opinion Research Center (NORC) at the University of Chicago. This work was the first interdisciplinary team effort to look into a variety of actual disaster events. It happens to be where I first became involved personally and professionally in disaster research by doing field work in everything from an earthquake in California to tornadoes in Arkansas to fires in Chicago to gas explosions in a suburb of Rochester, New York.

The personal note is unimportant. What is important was the initial starting point, the work undertaken, and the conclusions reached in the University of Chicago research and studies initiated about the same time in half a dozen other universities around the country. All started with the idea that the major social and behavioral problem in disasters was the personal and social breakdown and disorganization which supposedly occurred in the face of extreme stress. The researchers, it was hoped, might be able to advance some ideas on how to reestablish personal stability and social order. It was simply taken for granted that disaster behavior deviated sharply from everyday behavior; to establish that, therefore, was not a research goal. Although not always successful, all the researchers attempted to do systematic field studies; they interviewed, they observed on the scene, they gathered whatever data was available. Even as early as 1952, the NORC University of Chicago team was able to conduct a month long, random sample survey of 342 households which involved a field interview instrument that took over two hours to administer.

Finally, the most important of all, the pioneer researchers in the disaster area, from the early 1950s to the early 1960s, reached the same general conclusions--they had made a basically incorrect assumption. There simply was not the personal and social disorganization in disasters that had been anticipated. Particularly at the individual level, behavior in extreme stress is usually controlled rather than impulsive. Behavior under stress generally involves the use of what is seen as appropriate means to the perceived ends; it is generally not disorganized. Behavior is generally adaptive, that is, it is in general functional rather than dysfunctional to the situation.
It is not that researchers found no problems. Quite the contrary, these early studies found many, especially at the group level. For example, the mobilization of all relevant organizations at times of disasters is usually problematical; certain necessary tasks such as search and rescue and allocation of casualties to hospitals are frequently poorly done; interorganizational coordination in the post-impact period may or may not occur.

Overall and in retrospect, it can be said that pioneer researchers accomplished two important things. They uncovered a number of myths and misconceptions about disaster behavior, and obtained some ideas of the sources of problems affecting efficiency and effectiveness of preparations for and responses to disasters.

Let me say just a little bit more about the myths and the sources of problems. I think they are important to note here because they are relevant to an understanding of our topic, namely, the consequences of disasters for mental health. As I shall try to indicate later, I think some mythological views still prevail with respect to mental health problems, and the prime source of problems is not yet fully recognized.

The pioneer researchers in the disaster area established the existence of a number of myths regarding behavior in the stress situation of a disaster which are widely accepted. The notion that panic behavior is a common phenomenon in disaster events is one example of an erroneous popular belief that has been refuted by empirical research. Media accounts reporting instances of panic flight reactions at disaster sites have long been common. At times, entire communities have been described as fleeing from a potential site of disaster impact; however, the reality in the pre-impact period is that the vast majority of community residents can scarcely be induced to evacuate their homes, even when the possibility of damage and destruction is imminent.

Many more examples of erroneous thinking about other realms of human behavior in disasters could be cited. Of course, the reason why it is important to refute myths about disaster behavior is not simply because they are untrue. The correction of misconceptions is important because incorrect ideas are sometimes acted upon, not only by individuals but also by officials responsible for community disaster planning and response. For example, there have been cases where local officials had information that disaster would strike, but did not warn the community because they felt that doing so would create panic flight among residents. Many individuals could have benefitted from a warning period to secure their homes and possessions and to prepare for the disaster impact.

The sociologist W. I. Thomas noted many years ago that "Situations defined as real are real in their consequences." Because definitions of the situation that are based on faulty knowledge can have consequences detrimental to human life and property in the disaster setting, it is very important to dispel stereotypic notions about disaster behavior and to replace these with solid empirical knowledge. The bulk of the early research was based on first-hand observations by researchers in the actual disaster setting. This provided an opportunity for the systematic gathering of information about general occurrences in impacted communities and was helpful in dispelling mythological notions based on the isolated, unique or dramatic occurrence.
Disaster research in the mid 1950s and early 1960s not only uncovered myths but also indicated that the roots of many disaster problems could be found in the organized effort to prepare for, respond to, and recover from major community emergencies. Often the very organizations involved in disasters are a major factor in the disaster-associated problems which develop. This, of course, is not deliberate, but nonetheless, agencies and groups often act in such ways as to magnify or create difficulties and problems for populations threatened by or actually exposed to danger. In fact, this point is now so well accepted and recognized by experienced disaster researchers that they draw a distinction between agent-generated demands and response-generated demands. Disaster agents create certain demands such as search and rescue, care of injured and dead, etc.; but there are also response-generated demands. These are the needs and demands which are not created by the disaster agent itself, but by the very activities that take place when responding to the disaster agent. These include such matters as communication, continuing assessment of the emergency situation, the mobilization of human and material resources, coordination, and control and authority. In some cases, the response-generated demands turn a minor incident into a major disaster. In other words, the response itself is often worse than anything the disaster agent itself presents.

In the Wilkes-Barre flood, about 20,000 people had to leave their homes for a long period of time because of a massive flood (I shall omit here a discussion of the pre-impact organizational failures which did not create the disaster agent but almost insured that it would have maximum destructive impact). The displacement forced evacuees out of their homes and disrupted their lives in many major ways, and, even worse, an incredible amount of bureaucratic inefficiency forced many of them to break neighborhood ties and live in trailers which were very poorly suited to the area. There is little question that for many households and individuals, greater social and psychological damage was occasioned by the "helpful" response of putting evacuees in unsuitable trailers in undesirable areas than was done by the disaster agent, the flood waters.

In another situation, the Buffalo Creek disaster, a social scientist looking at another massive relief effort said: "The end result insofar as housing was concerned was what might be expected if a brilliant madman set about in the most ingenious ways to maximize personal and social pathologies." This was said of an effort in which millions of dollars were spent over several years by many well-intentioned agencies that did not know what they were doing, or perhaps worse, that thought they knew what they were doing.

My point in citing these examples is to indicate that much of the early social science disaster research suggested that to focus solely on the disaster agent would result in the omission of an often very important aspect of the situation, the organized attempt to respond to the agent. Organizational response to a disaster or its threat is crucial since it provides the structure for possible individual responses. At one time, the National Weather Service often asked why people did not pay attention to their warnings about dangers. The problem was seen as residing in individuals, as one of perception of messages, and as a reflection of a passive or unresponsive attitude in the face of danger cues. However, social science studies of the warning process indicated that the problem was incorrectly viewed—the question to ask was not why people did not pay attention to warnings, but why alerting organizations did not issue messages that people would interpret as warnings. The deliverers of certain
disaster-related services were the source of the problem, not the recipients of the services, the population at large. People did not passively perceive danger warnings; rather, the involved organizations simply were not communicating warning messages, a rather different view of the problem with drastically different implications of what could be done about it.

It is only fair to add that the National Weather Service did learn from research studies. It did change some of its operations and communications. While not all difficulties have been surmounted, more meaningful messages are now communicated which can be perceived as real warnings. People always respond to warnings of danger. They are not passive in the presence of threats to self and life; they simply were not getting such messages before.

I certainly do not want to imply that all disaster problems can be solved by looking for the source of the difficulties in the organizations rather than the individuals involved in a crisis. However, the research of the 1950s and early 1960s did establish this approach as being a very fruitful way of looking at many disaster problems. Rather than blaming people for what is happening to them, there are many matters which can be better understood by looking at the social situation or social structure in which people must respond. The early disaster researchers also showed that if the "wrong" questions were asked, rather meaningless answers would be obtained. "Wrong" questions will be posed if mythological assumptions about disaster behavior are not uncovered and challenged.

The general line of disaster research focusing on groups and social structure was continued and extended with the establishment of the Disaster Research Center (DRC) at the Ohio State University in 1963. DRC is the oldest disaster research center in the world and the only one in the United States devoted to the study of organizational and community responses to disasters. Since it was founded, the Center has conducted over 400 field studies of community crisis situations, mostly involving natural and technological disasters. DRC is structured so that it has always had teams of trained researchers ready to visit a disaster site on short notice and we frequently have been able to have observers on the scene as an emergency develops.

While continuing to look at the emergency time period, the Center's more recent studies involve pre-impact planning and longitudinal examinations of post-recovery periods. In terms of specific topic areas, we have in the last five years or so been researching delivery systems in mass emergencies, such as the delivery of emergency medical services in mass casualty situations and the delivery of mental health services in disasters. In addition, we have been studying pre-trans-and-post problems associated with hazardous chemicals which may generate sudden threats and danger to community life.

Today, the Center is not the only group involved in disaster research. Although not organized on a center basis, there are currently a number of other groups of disaster researchers in the U. S. studying everything from the socio-behavioral implications of earthquake predictions to the handling of the dead in mass casualty situations to the image of disasters set forth by the mass media. Around the world, other organized disaster research groups
have been established in France, Japan, Italy, England, Australia and Sweden and there are also active researchers in Holland, New Zealand, West Germany and Belgium as well as a very active disaster research program in Canada.

All this social and behavioral research in the disaster area has resulted in many important consequences of both a practical and theoretical nature. Solid knowledge exists about some topics; we have good knowledge about other topics. To be sure, on some matters, observations are no more than mere speculations, and with regard to a few things, nothing is really known. But, compared to just a decade or two ago, for those who would look, there is much more solid information to be found. Unfortunately, not everyone who has been examining the topic of mental health in disasters has taken advantage of the knowledge about disaster behavior in general and the full range of specific work in the mental health area in particular. It is a little disturbing to read supposed examinations and reviews of the literature and not find any references to whole bodies of research findings and theoretical formulations from the disaster area. Such lack of references attests either to poor scholarship or a deliberate avoidance of ideas that do not fit preconceptions. More importantly, it can only lead to a slow and painful invention and reinvention of the wheel and a tendency to incorrectly generalize from a specific historical incident.

Using this brief sketch of disaster research as background, let me now turn to the ideas and work regarding the consequences of disasters for mental health. The statements and generalizations I make are drawn from an examination of much of the literature in the whole range of disciplines which have looked into this question.

To say that most people equate the term disaster with intense and prolonged human suffering, anguish, loss and despair is almost to state the obvious. Even the common sense observer would agree that the impact of a tornado, an earthquake, a hurricane or the water surging from a crumbled dam goes far beyond the immediately recognizable loss of life and the sheer physical damage and destruction associated with such events, impressive though these may be. What is even more important about a large-scale disaster is the disruption and destruction of community life, the marked alterations of routine patterns of social expectations and day-to-day personal habits which follow in its wake. While the physical impact of a disaster may be over in a few minutes as in Xenia, other consequences may extend over weeks, months, and even years. A major disaster does far more than wreck buildings and sever lifelines; it interrupts the rhythm, cycles and very social fabric of community life.

Disasters are part of a class of collective stress situations; since they disrupt social life, they also induce psychological stress for their victims. But how do human beings respond in these collective stress situations? Can it be assumed that the social disruption occasioned by a large-scale catastrophe also creates psychological disorder or malfunction among victims? The answer to this question is twofold: how people are believed to respond and how they actually respond.

First, I want to discuss what is believed. We will look at three belief systems. The first one will be what the public at large believes--what might
be called folk wisdom. Second, we shall look at the theoretical notions in the mental health area relevant to mental health consequences of disasters—what might be called the theoretical presuppositions of mental health practitioners. Third, we will briefly look at the changing models in the social sciences which have a bearing on the question. As already suggested in our discussion of the history of studies in the disaster area, social scientists started out with an image which has since changed.

After we finish our examination of beliefs, we will turn to the empirical evidence. If anyone expects to find conclusive evidence satisfactory to all, there will be disappointment. At one level at least, the evidence is contradictory.

Folk Wisdom

For a long time, conventional wisdom has held that human beings do not react well to large-scale catastrophes. It is commonly believed that when people are faced with the threat or the actual occurrence of a major disaster, they disintegrate physically, mentally and morally. They engage in bizarre, antisocial, irrational and destructive acts, such as wild and disorderly panic, looting and other forms of criminal deviance. Popular beliefs about reaction to extreme stress situations are so grim that hysterical breakdowns and psychotic episodes are thought to be common among disaster victims in the short run and a wide variety of forms of severe psychopathology are expected to be manifest among victims in the long run. In short, the image is essentially that disasters create or exacerbate severe forms of mental illness for their victims.

These common stereotypes of how persons respond to and are affected by disasters are not new. While there are undoubtedly many reasons for such stereotypes, one basic reason is that mass media and journalistic accounts often reinforce and support such beliefs. This can be seen in the images played up by news and magazine accounts of disasters dating as far back as the late 1800s and early 1900s. For example, in a Harper's magazine article of 1889, survivors of the Johnstown, Pennsylvania flood were described as, "crazed by their sufferings." A Saturday Evening Post account of the devastating hurricane which hit Galveston, Texas in 1900 wrote of 500 people who went "insane almost in unison" following the disaster. Similarly, Harpers Weekly wrote that the 1906 San Francisco earthquake and subsequent fire brought about cases of "men gone mad." While the terminology used in these articles is, of course, outdated, they do nevertheless illustrate the long history of viewing disasters as leading to severe psychopathology.

Perhaps even more important, the same general stereotypes continue to be emphasized in present mass media accounts of disasters. Following a series of major floods in 1973, Newsweek, for example, reported that once the immediate post-impact period is over, a new reaction starts to appear among victims—this one a "kind of shared psychosis that hits just about everyone affected directly or indirectly by the event." The story then goes on to assert that within a few weeks after such a catastrophe, symptoms of emotional problems will become disturbingly obvious; the number of successful suicides rises by
about a third; hospital admissions for psychiatric reasons run at double
the normal rate; and the frequency of accidents skyrockets. The picture
painted by this story is a very grim one, indeed—if true.

While numerous other examples of journalistic writings which advance
similar ideas could be cited, we all know that most people do not believe
everything they read in newspapers or magazines. Or do they? How widespread
in actuality is the belief that disasters trigger extreme emotional and psych-
ological reactions among the general public? Three non-DRC surveys have
recently been undertaken to ascertain empirically actual beliefs about human
behavior in disaster situations. The first, a survey in the state of Delaware
found that large blocs of the population do, in fact, believe that disasters
evoke extreme reactions in their victims. For example, these researchers
report, among other things, that 74% of those surveyed agree with the state-
ment that "immediately following the impact of a disaster, victims are in a
state of shock and unable to cope with the situation by themselves." The
second survey conducted in a small community in Ohio not far from Xenia only
months after the tornado produced similar findings. The attribution of prob-
lems of a mental or psychological nature to victims of disasters was widespread
among the population surveyed. A more recent field survey in Arkansas, Wiscon-
sin and Mississippi also looked at beliefs of community officials as well as
the general populace about psychological consequences of disasters. The find-
ings are consistent with the previous studies. Officials as well as the public
at large hold to the image that disasters produce extreme psychological and
emotional reactions in their victims.

The Mental Health Area

But what do psychiatrists, psychologists, and other experts in the mental
health field have to say about human response to disasters? Like the mass
media and a majority of the general public, a large number of mental health
professionals also assume that extreme emotional and psychopathological re-
actions are a typical consequence of disasters. While the terminology used
varies somewhat, psychiatric and psychoanalytically oriented writers often
note that immediately after impact, victims of major natural catastrophes can
be expected to display what is often termed the "disaster syndrome." This
condition is supposedly characterized by an unrealistic absence of emotion,
inhibition of activity, docility, indecisiveness, lack of responsiveness and
automatic behavior on the part of disaster victims. During the later post-
impact phases, victims are likely to exhibit reactions such as: an increase
in the use of alcohol and other drugs; acute, traumatic neuroses; tormenting
memories and guilt feelings over survival; and irrational hostility and scape-
goating.

An often cited numerical projection of the numbers of victims likely to
display psychological disorders was set forth over two decades ago by Tyhurst,
one of the first professionals writing on the subject. According to Tyhurst,
about 12-25 percent of a disaster-affected population will show grossly in-
appropriate behavior, anxiety and effective states, hysterical reactions, and
psychosis. Another 75 percent will be "dazed, stunned, bewildered" or other-
wise exhibit the disaster syndrome noted above.
On the whole, until the last few years the issue in the theoretical mental health literature was not whether severe pathological reactions occur in victims of disasters, but rather the incidence and duration of these assumed problems.

Of course, as was asserted earlier, when the "panic myth" was discussed, "situations defined as real are real in their consequences." The importance of the beliefs and perceptions held by professionals and the general public is the implication they have for what is done in a disaster situation. People do not come into disaster situations with blank minds about the ways in which human beings are expected to react. Rather, there are common beliefs even before a disaster occurs about the response to be expected. The general tendency is to assume that victim populations will exhibit varying degrees of extreme psychological disorder, although the popular vocabulary is to frame these disorders in terms of a state of "shock" or of an "emotional" reaction. Typically, anecdotal stories circulate about "unusual" behaviors on the part of some victims. Experts on human behavior allegedly, and in some cases actually, reinforce these folk tales and beliefs. Thus, true or untrue, the widely held image that disasters evoke extreme psychological responses is bound to affect the overall perception of such a situation.

Social Science Models

The first social and behavioral researchers in the disaster area worked with a model about disaster behavior which they eventually found was inappropriate and inaccurate. There were four basic assumptions:

1) Disaster responses were relatively homogeneous, that is, there was a tendency to think of behavior under stress as being either/or; for instance, either people acted in an antisocial fashion or they did not;

2) Many of the responses were inappropriate or "bad," that is, they took the form of panic, looting, hysteria, shock or other forms of personal breakdown or disorganization;

3) The disaster victim primarily responded directly to the disaster agent or its immediate effects; and,

4) The response of the individual victim had to be understood.

Implicitly more than explicitly, the early social and behavioral researchers obviously thought that there were severe and widespread psychological consequences for the victims of disasters. But, it was finally recognized that the stated assumptions were empirically incorrect and an invalid disaster behavior model was being used.

Eventually, a new model based on research findings emerged. It assumed that disaster responses are always heterogeneous, that one should expect a variety of differentiated responses. Disaster behavior could be functional or dysfunctional depending on a variety of factors, but the general model response is organized—even panic flight behavior is not as impulsive,
irrational or inappropriate as was once thought. It recognized that the surrounding social context in which the disaster occurred was as important, if not more so, than the disaster agent itself—the importance of the response demand rather than the agent demand as we discussed earlier. Finally, it saw that it was more important to understand organized response than individual behavior. This change of imagery occurred with respect to disaster behavior in general, but it clearly has had major implications for expectations of the consequences of disasters for mental health.

Let us now turn from beliefs to actualities. How accurate are the widespread common sense beliefs that people react poorly to collective stress situations? How correct is the theoretical view in the mental health area that disasters are necessarily pervasive and deeply traumatic events? Is there any validity to the implication of the newer social sciences model about disaster behavior in general that, perhaps, the specific problem of psychological well-being in disasters is different from and more complex than appears on the surface?

What is the actual evidence? By that I mean what do we have that goes beyond isolated anecdotal examples or an occasional clinical impression? What findings and observations do we have which have been obtained according to standard scientific research procedures and analyses?

A few years ago it would have been necessary to say that the kind of data to which we have just alluded simply did not exist. Only since the beginning of this decade have major serious efforts been made to obtain data that is both qualitatively and quantitatively acceptable by standard research criteria. It can be said that until now there has been a little over a dozen disasters in which an effort has been made to gather at least some semi-systematic data on the psychological well-being and mental health-associated problems and difficulties of the victim population. I am talking now only of studies in American society.

These disasters include:

- the Big Thompson flash flood in Colorado
- the Buffalo Creek dam flood disasters
- the Buffalo, New York blizzard
- the Corning, New York flood
- the Los Angeles earthquake
- the Louisville tornado
- the Monticello, Indiana tornado
- the Omaha tornado
- the Rapid City flash flood
- the tornadoes and floods in the St. Louis area
- the Teton dam disaster in Idaho
- the Topeka tornado
- the Wilkes Barre flood
- the Xenia, Ohio tornado
I have read the list to show that the disasters studied were from different sections of the country involving various kinds of communities, and were occasioned by different kinds of disaster agents.

The studies of these various disasters vary in their methodological rigor. We have among them, for example, a strict probability sample of 15% of the total impact population in the Xenia tornado and self-selected samples of victims who sought some kind of aid in other disasters. In some of the research, extensive data were obtained from combinations of open-ended interviews, psychological scale instruments, mental health case load documents, assessments of key informants, drug usage statistics, etc; in other studies, only two or three questionnaire items dealt with mental health matters. However, despite the variety of data-gathering instruments used and the samples obtained, the quality and quantity of the data approaches respectability. Certainly, it is substantially more defensible as acceptable data for research purposes than the anecdotes, scattered clinical and field impressions and selective observations which passed for data even just a decade ago.

In addition to this work which has focused directly on victims, there has been systematic study of the deliverers of mental health services in disasters. For example, during the past two and a half years we, at the Disaster Research Center, have been systematically examining the delivery of services, especially in those events which have obtained a federal declaration of a disaster and additionally made efforts to obtain federal funds for crisis counseling and other mental health services. Our work includes all levels, from the federal government on down, involved in assessing mental health needs and helping in the administration of mental health services. Put another way, we are looking at how local, state, regional and federal mental health practitioners and involved officials reach decisions on the consequences of specific disasters for mental health. Why are services provided in some disasters and not others? What do local mental health practitioners assess as disaster-related mental health needs? What consensus, if any, is there among the various agencies involved on the kinds of services which can be and are provided? What types of disaster-related mental health problems do practitioners actually see? These and similar questions are giving us answers about the delivery of mental health services in disasters which are a counterpart to the findings and observations obtained in the research on the receivers of the services, or the disaster victims. Now we have data on both the providers and the receivers of mental health services.

Well, what is the picture that emerges from these studies? My remarks here are an initial attempt to pull all the pieces together and see what we have. For the very first time, the basic question of the psychological consequences of disasters for mental health can be viewed as a whole or total picture.

However, as I have already indicated several times, the picture is not totally clear. We are still some steps away from a final conclusion. In my judgment, the major pieces are falling into place, but final closure cannot be made at this time.
One reason closure cannot be made is that two somewhat different positions exist on the issue. Let me indicate in gross and overall terms these positions. I will not identify the positions in terms of specific studies or particular people, but will rather try to state the apparent consensus among one set of practitioners and researchers, as opposed to the consensus of another set of practitioners and researchers.

The first position I will talk about essentially holds that disasters constitute highly stressful and traumatic life events. These events are seen as producing very pervasive and deeply internalized psychological reactions among the victims. The victims are viewed as primarily attempting to cope with the meaning of the trauma of the disaster impact. I have long searched for a convenient label to attach to this position. I have found no satisfactory term. But to give it a shorter name so that talking about it is easier, I will call this approach the individual trauma approach.

The second position I will talk about basically holds that disasters have differential rather than across-the-board effects. Some of the effects are positive as well as negative; many of them are relatively surface and short in duration. The varying problems of victims are more closely related to the post-impact response than they are to the disaster impact itself. Again, there is no neat label which captures this approach. So, for lack of a better term I will call it the social fabric approach.

The two terms, the individual trauma approach and the social fabric approach, are merely labels that will enable us to more easily talk and contrast the two views. Neither in terms of connotation or denotation, do the labels fully encompass what I see as fundamental differences between the two approaches.

Let me further illustrate the differences in the individual trauma and the social fabric approaches. I will use examples drawn primarily from various studies and analyses of the Xenia, Ohio and the Buffalo Creek dam disasters since they are among the most intensely studied insofar as the consequences of disasters for mental health are concerned. Other pieces of research will at times be noted.

One difference in the two approaches can be found in the pervasiveness and nature of the psychological consequences of a disaster. The individual trauma approach essentially argues that everyone is negatively affected. Quote: "The psychological impact of the disaster has been so extensive that no one in Buffalo Creek has been unaffected. The overwhelming evidence is that everyone exposed to the Buffalo Creek disaster has experienced some or all of the following manifestations of the general constellation of the 'survivor syndrome'" and goes on to note these as being--death anxiety, death guilt, psychic numbing, impaired human relationships, and inability to find an explanation for what had happened. "Our observations were all too consistent with a body of recent experience with 'massive psychic trauma' of war, revolution, concentration camps, and severe disasters--psychiatrists have regularly observed that psychological impairment can result in virtually anyone, independently of estimates of predisposition." In the individual trauma approach,
not incidentally, victims are seen as not only those directly impacted, but also those indirectly involved and exposed to the disaster. This may include the providers of rescue, relief and welfare services, such as the fire and police officers who handled dead bodies in plane crashes like the recent ones in San Diego and Chicago.

In contrast, the social fabric approach, the differential and not necessarily negative aftereffects of disasters are emphasized. To quote from a Xenia study that was carried on for 18 months after the disaster:

"The study found that there was an extremely low rate of severe mental illness, if any at all, as a consequence of the tornado. On the contrary, it concluded that a large percentage of the people had extremely positive reactions to the disaster. Eighty-four percent of the people claimed that their experiences had shown them they could handle crises better than they thought; and 69 percent reported that they felt they had met a great challenge and were better off for it. ...Changes in the quality of social relationships are often thought to be related to changes in emotional well-being. Yet only two percent of the population admitted to worsening relationships with close friends and family after the tornado. Instead 27 percent claimed that such relationships had improved. Similarly, a mere three percent found their marital relationship less satisfying since the tornado, while 28 percent reported them to be, in fact, more satisfying."

Similar results have been reported elsewhere. A non-DRC study of the Topeka tornado done three years after the event was able to match victim families and nonvictim families for which pre-tornado data existed. It found that victim families rated their marriages as happier than before the tornado and as happier than nonvictim families. Also, victim couples went out together more often after the tornado than before. Clearly, the individual trauma and the social fabric approaches are not reaching the same conclusions about the psychological outcomes of disasters, whether it is in terms of how people feel, relate to others, or evaluate their experiences.

There is also a difference along another line. Essentially, the individual trauma approach argues that the post-disaster negative reactions are neither superficial nor transitory. Again, to quote from a Buffalo Creek analysis:

"We can say it (i.e., the flood) brought about an extraordinary number of psychiatric disturbances, and that even those in the very small minority without formal psychiatric diagnoses...tended to experience significant degrees of psychological suffering and conflict...Without denying the existence of significant variation in psychological vulnerability, we have been far more impressed (as have other observers) by the degree to which the massive character of the trauma subsumed individual differences and produced strikingly consistent forms of impairment. We have also been impressed by the persistence of these expressions of psychological impairment, which in many cases increased rather than diminished over time."
It is not surprising to find elsewhere the statement:

"There is, in fact, mounting evidence that the effects of disaster can extend over generations, and that adverse effects of significant proportion can occur in children of survivors, even after the children are born some years after a particular disaster...at Buffalo Creek one can certainly observe many families to be a 'collection of severely disturbed and traumatized individuals,' who could well transmit various disaster-related conflicts to subsequent generations."

Apart from the Buffalo Creek research, other studies, while not taking as extreme a position, as just stated, also suggest long term effects. Recently, a study of 566 women was made five years after the Wilkes Barre flood. It attempted to tap depression and anxiety through self-rating scales and other measures. One of its conclusions was that for all seven variables related to long term mental health, the results consistently showed the direct flood victims had more symptoms than did non-flood victims although differences in long run physical health problems stood out more sharply.

In contrast, the social fabric approach sees positive as well as negative psychological consequences and argues that many of the effects are relatively superficial and not long-lasting. Again, we cite a Xenia summary analysis:

"A year and a half later, there were still few cases of severe pathological disturbances as a direct result of the disaster. Only three percent of the population reported feeling at any time after the disaster that they might have a nervous breakdown. The proportion of those who did have such a fear and who reported that their symptoms actually interfered with routine social activities was insignificant. Only one percent of the population had considered suicide at any time after the tornado; only three percent reported any increase in drinking whereas seven percent of Xenians claimed they consumed less alcohol..."

In the same report, it is noted that independent behavioral indicators supported the reports of the victim populations. Thus, consistent with victims' own reports, there was no overall change in the marriage and divorce rates after the tornado. Agencies that provided treatment and hospitalization for serious psychiatric problems reported a decline in demand for their services. There was a significant drop in liquor sales in the two state monopoly stores in the Xenia area in the six-twelve month period after the tornado. In a non-DRC study conducted 18 months after the Rapid City flash flood, it was found that no significant increases occurred in the number of attempted or actual suicides or single car accidents (often considered suicide attempts); the rate of juvenile delinquency; the number of citations for driving while intoxicated; the number of automobile accidents; the rate of infant mortality; rates of scarlet fever, strep throat, and hepatitis; the number of prescriptions written for tranquilizers; and the utilization of community mental health center services. Again, the individual trauma and the social fabric approaches reach different conclusions about the severity and duration of the mental health consequences of disasters.
The social fabric position does not propose that disasters have no psychological consequences. It does see little evidence of severe psychopathology on either a short or long term basis after a disaster. Typically, those operating within this framework agree with a non-DRC study of both flood and tornado victims in Missouri:

"The results of the survey indicated that three to six months after the disaster, none of the victims had experienced a serious mental breakdown...The mental health survey showed that, although the victims as a group did suffer postdisaster emotional discomfort, they were not incapacitated or in need of psychiatric care."

An analysis of Xenia data showed no evidence on the basis of self reports by victims of severe pathological disturbances 18 months after the tornado. In addition, the state hospital facility most likely to be used reported a 33% drop in admissions in the year following the tornado. A similar decline in demands for services was reported in other area organizations specializing in long-run clinical treatment through the use of psychotherapy, drugs, or hospitalization. There was an absence of disaster related cases of serious mental illness during the emergency period and recovery periods. This was true despite the mobilization of resources in the expectation that these types of cases would appear.

The social fabric position does acknowledge that many disaster victims do exhibit a variety of transient symptoms which reflect emotional disturbances. In the Xenia study, various behavioral and psychological symptoms used as indicators of mental health problems were reported as follows:

56% of those surveyed reported feeling depressed or low on occasion;
50% admitted being more nervous or excited some time after the tornado;
27% reported sleeping problems at times;
25% reported headaches; and,
19% indicated some loss of appetite.

At a more behavioral level, 14% of those surveyed said they missed five or more days of work because of an emotional or mental health problem. There were also significant increases in the number of visits to the emergency room and outpatient clinic of the local hospital as well as in incidents involving traffic violations and juvenile delinquency.

However, in order to put this in a proper context, it should be noted that when the victims were asked how they felt emotionally or mentally after the tornado, 58% said they felt good or excellent, 33% said fair and only 9% said their emotional or mental health was poor or very bad. Behaviorally, there were significant decreases in deaths due to heart, vascular and respiratory diseases; actual number of offenses reported to the police; and in drug- and-alcohol-related case contacts by the local crisis center. There were no changes in suicide rates, domestic trouble calls to the police or reports of child abuse.
This mixed picture of non-incapacitating and non-continuous disturbances is quite similar to that reported by other students. The Missouri study said:

"Approximately half of the victims believed the disaster had caused them to be more strained, tense, and nervous. The most common symptoms reported were restlessness, feeling blue, fatigue, irritability, sleeplessness, and minor somatic complaints.

It is interesting to look at the results of the very first survey of this kind, done after a series of tornadoes in Arkansas in 1952 and note the following findings:

49% reported nervousness, excitability and hypersensitivity
46% sleeplessness or poor sleep
37% inability to concentrate
29% loss of appetite
19% headaches
18% anxiety dreams, nightmares

The social fabric approach sees victim populations experiencing the most common and widespread difficulties as a result of obtaining human services. These services frequently generate anger, concern, worry and anxiety. For example, a study in Rapid City concluded that while the flood did not engender a major community mental health crisis, it did result in an increase in stress for non-affluent victims. Group life in government-sponsored mobile home parks set up after the disaster was a source of stress and was probably detrimental to the psychological well-being of residents since this way of life tended to destroy their natural helping networks. It was not only the impact of the disaster itself which affected victims' psychological well-being, but also the more long-term impact of somewhat inefficient and ineffective federal relief efforts which partially accounted for the stress manifested by the victims. In the words of two analysts reviewing the literature, longer term reactions are probably, "a function of a variety of factors, among which disaster impact is only one."

Why are there two positions? What accounts for the differences in views? Many answers could be given, but I want to mention six possibilities.

1. First, it is possible that the different researchers and analysts are observing actual differences in the mental well-being of the victims they have studied. Since there has been very little overlap in the specific disasters studied by advocates of the two views, this is a hypothetical possibility. For this reason, if there were actual differences in what occurred in the events, it is possible that different observations could be made and different conclusions reached. Until the same disasters are examined from the two different perspectives, this has to be considered a hypothetical possibility, but it seems a very unlikely explanation, statistically unbelievable.

It might be assumed that the individual trauma approach has particularly focused on massive catastrophes such as Buffalo Creek or the handling of many dead in incidents such as plane crashes or night club fires, and that, therefore, these conclusions were reached as a result of studying such extreme cases.
But, it is really difficult to argue by almost any criteria that the tornado in Xenia or the Teton dam flood constituted disasters of a lesser degree. Furthermore, if only extreme cases are being used, then generalizations should not be made to include all kinds and degrees of disasters. In fact, it is the social fabric position which argues that the social context of each disaster must be taken into account, and that, consequently, there can be fundamental differences among disasters insofar as their consequences for mental health are concerned.

2. A second possible explanation for the differences in the two approaches could be found in what is taken as acceptable data and appropriate data gathering designs. The individual trauma position does lean in the direction of using self-selected or otherwise suspect samples—the Buffalo Creek data consists mainly of material obtained in connection with some of the survivors pressing a law suit. The legal depositions gathered were not intended to be objective statements. Clinical impressions and what to many seem anecdotal case examples are also often used in the individual trauma approach. In contrast, the social fabric position, while hardly a model of ideal scientific work, leans in the direction of population surveys, drawing as close as possible to a random sample, and using standardized scales or quantitative measures such as statistics on drug prescriptions, automobile accidents, divorce rates, agency case load figures, police and court records, etc. There are, of course, methodological questions which can be raised about these data gathering procedures—needs assessment surveys are not epidemiological surveys, organizational records are not necessarily objective, etc. but, nonetheless, the logic is clear.

There are differences in data gathering and data acceptability among those examining the consequences of disasters for mental health. However, I am not sure that these differences account for most of the differences in view. In fact, since no data is self-explanatory in itself, I doubt that this is a good explanation for anything.

3. Third, and closely related to the matter just discussed is the question of the interpretation of data. Many of the theorists and researchers taking the individual trauma approach have some kind of general psychoanalytical intellectual background. There is a tendency, therefore, to look behind the overt and the manifest. In the context of the topic we are discussing, this can lead to opposite interpretations of what at one level is the same piece of data. For example, if disaster victims assert they have no problems or state that they are happier in the post-impact period than in the pre-impact period, the assertions can be accepted at face value if not otherwise contradicted or logically suspect. But the assertions can also be taken as evidence of just the opposite, as evidence of the "denial" of the reality of the situation. In fact, there need not be even verbal denial according to some:

Even when there has been no loss of human life, one can expect a predictable sequence of such behaviors as shock, guilt, anger, and grief to occur among affected persons over a six to twelve month time period. A disaster victim's failure to display these normative reactions should not lead to the conclusion that all is well; instead, it should alert the caregiver that the victim potentially is employing maladaptive resolutions.
Some, of course, see this as a Catch-22 situation, a no win situation.

Obviously, drastically different conclusions can be reached when contrasting interpretative frameworks are used. There is no doubt this has occurred in the examination of the consequences of disasters for mental health. But, again, this would hardly seem to explain all the differences between the two approaches.

4. A fourth possibility which could account for the differences in the two approaches is that somewhat different objectives are often involved. Many of those using the individual trauma approach are mental health practitioners interested in giving treatment to victims. Most of those operating with the social fabric approach tend to be researchers more concerned with reaching an understanding and explanation of the phenomena they study. Frequencies of a phenomena are often of some importance, but if the figures are very low the phenomena may be of little descriptive or analytical value. Let's take a purely hypothetical case and say that only 1% of a population suffered something or other, making that phenomena probably of no importance for statistical research purposes. To a mental health practitioner the 1% which may translate into 200 human beings could be very important insofar as diagnoses and treatment is concerned.

There is little doubt in my mind that at times, at least, those working within either one of the two approaches we have been contrasting, do tend to see "findings" in a very different light, given their professional objectives. Let me draw a parallel to something else. I might say, and bring considerable evidence to bear, that looting after disasters in American society is an insignificant problem since there is so little that it cannot be viewed as a community problem, and that disaster planning should not waste time and resources on what in overall terms is an almost non-existent form of anti-social behavior. However, to five families in a community of thousands who have undergone looting, and to the specific police officials to whom the victims complain, the very few cases of actual looting, are important and significant. From the community perspective or in terms of disaster planning, they are not, but the master, of course, is being viewed in different frameworks.

Similarly, I think some, although hardly all, of the differences in the individual trauma and the social fabric approach also reflect a difference in frameworks dictated by different objectives.

5. Fifth, some of the differences in the two approaches stem in part, I think, from different basic models being used to approach disaster phenomena. For lack of a better term, there is what I would call a "medical" view of the world which implies among other things that there is an objective reality out there responsible for pathologies of various kinds. On the other hand, there is what might be called the "social problem" view of the world which assumes among other things that difficulties are primarily the result of definitional processes having no independent existence outside the actions of individuals and groups. In the more extreme versions, adherents of this view argue that all disasters are politically defined events and in fact have no existence outside political definitions. It would take us too far afield to explore the very interesting implications of this view. Let it suffice to say that
the medical model and the social problem model of disaster behavior, when applied to the consequence of disasters for mental health, will not lead in the same direction.

The individual trauma approach tends to assume a medical model. The social fabric approach, instead, tends to assume a social problem model. How the phenomena to be studied is conceived, what is deemed important, and what should be done about it varies according to the basic model.

I might note that, contrary to what might be implied by the medical-social problem contrast, this is not a division between mental health practitioners and social scientists. The DRC studies of providers of mental health services in disasters which I mentioned earlier have found many deliverers of mental health services, especially those imbued with a community mental health ideology, often take a social problem approach to disaster phenomena. Many take the view that there are primarily "problems in living" in the aftermaths of disasters and not much in the way of mental illness. Obviously, they draw their ideas from Szasz and others who have argued about the myth of mental illness.

6. This reference to the myth of mental illness allows me to make a transition to my sixth possible explanation. This essentially takes a sociology of knowledge viewpoint. Put very simply, in fact oversimplified, the argument here is that those taking the individual trauma approach are following the same incorrect path that the early disaster researchers followed in studying disaster behavior generally.

They tend to think of mental health responses in disasters as being either/or, failing to see that disaster responses are always heterogeneous and differentiated. There is also an assumption that disasters are necessarily bad in their consequences. They do not recognize this as an empirical matter not to be taken as given. Actually the range of differentiated behavior can be functional, dysfunctional or a combination of both. The individual trauma approach still assumes that disaster victims respond primarily to the disaster agent or its immediate effect and have not yet fully seen that the surrounding social context is by far the more important factor. Finally, the individual trauma approach continues to take the response of the individual victim as the basic unit of study, and does not give enough recognition to the importance of the organized responses of groups in the situation.

In my judgment, the individual trauma approach is still at the mythological stage that most of the social and behavioral disaster researchers were at about two decades ago. It operates with myths about homogeneity, dysfunctionality, disaster agent responses, and individual foci that have now been abandoned in most other research in the disaster area. This "lag" among those taking the individual trauma approach can be partially due to the fact that the question of mental health in disasters is a recent one and that those using the individual trauma approach have failed to take advantage of what is known about disaster behavior in general.

As I said earlier, the individual trauma approach does not fully recognize the implications of what has already been learned about disaster behavior.
Human beings and social groups, in general, hold up rather well in the face of extreme stress. The individual trauma approach continues to accept partially mythological ideas about behavior. Disaster behavior is not as simple or as homogenized as is implied in a variety of myths.

If I were to speculate about the future, I would forecast that the individual trauma approach will have relatively little standing within a decade. It will have become part of the history of the development of disaster research. In fact, there are signs that we are entering a transition stage from mythology to reality. NIMH is intending to support rather extensive epidemiological surveys of mental health problems in disasters, and, the studies involved seem to have research designs which are much more in tune with the social fabric approach than with the individual trauma approach.

Also, I think recently produced disaster data supports one notion that we are in a transition stage from mythology to reality. I have in mind some studies of special populations which might be thought to be more vulnerable to extreme stress than others, and some research which has been done outside the United States with respect to disaster-related mental health problems.

The elderly and children are thought by many to be especially vulnerable to extreme stress. Only three systematic studies of the aged in disasters have been done: the Wilkes Barre flood, the Omaha tornado, and the Teton dam disaster. None of the studies are very supportive of the notion that the post-impact mental health responses of the aged are likely to be worse than those of other age categories. In fact, two of the research efforts argue that the aged coped better and made better adjustments than the similarly affected younger age groupings in the victim population. Very little systematic work on children has been published but unpublished research which has been done primarily indicates children are more likely to reflect the reactions of their parents than anything else; not a terribly new idea since such speculation was advanced several decades ago. At any rate, I am aware of little systematic research in the literature on the reaction of special populations which supports the individual trauma approach. It is probable that we have similar misconceptions and myths about the general vulnerability of special categories of the population much like we have had about other aspects of disaster behavior.

Studies about mental health problems in disasters outside of the United States are also appearing. The most systematic research has been the study undertaken on the devastating earthquake in Managua, Nicaragua which I mentioned at the beginning of my talk. The findings are somewhat mixed, but again not very supportive of the individual trauma approach. "The data does not support the speculation that a natural calamity causes severe and long term psychiatric trauma." Most of the data was obtained from admissions and readmissions and inpatient and outpatient treatments of all patients over a two year period at the National Psychiatric Hospital. Rates of admission for psychoses fell sharply. There was a deep drop in admission rates for personality disorders, although there was an increase in neuroses involving anxiety and depression.
However, insomnia, phobia and obsessive-compulsive symptoms dropped markedly. In an Australian study of the aftermaths of Cyclone Tracy which devastated the city of Darwin, an attempt was made to measure long term effects. Perhaps the most significant finding was that victims who never left the devastated city showed a better adjustment than returning evacuees, and evacuees who had not yet returned to Darwin exhibited the most psychological problems. Continuous living in the midst of almost total destruction did not seem to have the impact that the individual trauma approach would seem to imply.

Let me conclude by saying the following: From my point of view, there is a basic policy question involved in all of this. Is there a disagreement here between two approaches to the consequences of disasters for mental health which has some practical significance? Is this a difference that makes a difference? Or is this merely an academic or intellectual exercise which might be of theoretical interest and excite researchers, without having any meaningful implications in the everyday world of policy and operations?

I think there is a meaningful difference here: an important one in terms of disaster planning and response and for both deliverers and receivers of disaster-related services. If the individual trauma approach is essentially the correct one, we should be extending crisis intervention programs, preparing for outreach services for victims, and generally gearing up to handle the psychic trauma of those who have to adjust to the impact of a disaster agent. If the social fabric approach is the more valid one, a different strategy and use of resources is indicated. We should be reorganizing the federal, state and local disaster bureaucracies; we should be giving in-service training to providers and deliverers of services; and generally we should be gearing up to handle a social problem which is mainly the result of organizational inefficiency and ineffectiveness relatively independent of disaster agents. The individual trauma approach primarily assumes the post-disaster period as the time in which most things can be done and considers the individual, or at most the family, as the basic unit to be worked with. The social fabric approach primarily looks at the pre-disaster period as the time in which most things can be done, and considers the group or organization as the basic unit to be worked with. There are differences here which are major.

In an ideal situation with unlimited resources, I suppose all approaches could conceivably be used. But in a real world with finite resources, a more specific stance should be taken. Even if practitioners and scientists want to avoid the issue, the current social climate and trends will not allow them to do so. This is an age where greater accountability is increasingly being asked of practitioners and scientists. It is a period of time when the public at large is demanding greater input into what is done for and to them as consumers, as users, or in the context in which we are talking, as disaster victims. I think that the greater accountability and the greater participation being demanded is a very healthy thing. This means, among other things, that eventually those operating as practitioners and researchers in disasters will have to take a more definite stand on the consequences of disasters for mental health.
My remarks today were not intended to settle the issue. In fact, if past experience is any indication, they are likely to generate more controversy. But the ensuing dialogue can move us closer to some sort of answer or at least a stand. Sooner or later, as I have pointed out, we are going to have to answer the question: what do disasters and other community emergencies do to the mental well-being of human beings caught in such events?

I have indicated to you my view of the answers with some of the reasons for them. Perhaps, in fact almost certainly, some, if not many, of you disagree with my analysis of the situation. If so, I invite you to continue the dialogue in this or some other forum.