Preface

The following comments were prepared in December 1983 in response to a series of questions posed by Mandex Inc., which was carrying out a study supported by NIMH that was concerned with the development of mental health needs assessment guidelines for disasters. The comments were divided into two papers. The first deals with the general issue of how it might be possible to distinguish the characteristics of disasters which affect mental health outcomes. The second addresses the general issue of how disasters might affect community delivery services and social support systems.

The comments made do not necessarily reflect the views of anyone other than the author.

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Introduction

In late June 1983, engineers from the Federal Bureau of Land Reclamation released water over dams in the Colorado river system, to relieve reservoirs swollen by record runoff from late spring snows in the Rocky Mountains. By the middle of July, and downstream, the released water pushed the Colorado over its banks in its worst flooding in decades in Arizona, resulting in at least seven deaths and millions of dollars in property damage. What federal officials called controlled flooding contaminated underground wells, damaged hundreds of homes, and furnished ample breeding ground for millions of mosquitoes, raising fear of encephalitis and other diseases. The flooding was foreseen as lasting until September or later in Arizona and other states.

An acrimonious debate resulted in whether human action or nature was responsible for the high water. Residents, businessmen, and some state officials including the Governor of Nevada, said the organization responsible was the Bureau of Reclamation, because it waited too long to lower the water level in the reservoirs. Others, including federal engineers, said so much melted snow came into the system in late spring that it was too late, then, to draw down reservoirs. And they said many of those whose property was flooded had only themselves to blame because they built homes and businesses within the river's flood plain. Still others said the flooding was only a recognized trade off between flood control and water storage in the seven states with the 14 dams along the 1,450 mile length of the Colorado River. In fact, despite the floods, state and federal officials agreed that there were few in the region who would favor drawing down reservoirs as a future flood control measure for the 12 million people in the river basin.

(Adapted from news story in The New York Times, July 17, 1983)

The above abbreviated account illustrates some of the difficulties in trying to discuss the nature of disasters, what creates them, and what effects they have. Was this event a disaster? Obviously yes and no. Was it an act of God or the result of human actions? Obviously, it was one or the other, both, or neither. What were the important dimensions or characteristics of this event? Obviously that depends on the perspective of different actors involved. What were the effects of the happenings? Obviously they were not the same for the various parties involved. Were there any mental health consequences? Some would see the blame assignment as an obvious mental health effect; others would see the same behavior as obviously just the opposite phenomena.

Now, obviously the word "obviously" is used in the ironic sense of the term since we and presumably many others would have little difficulty in answering
in all the ways indicated (and more which could be visualized), even though on the surface many of the answers are inconsistent, contradictory, or illogical. The point, of course, is that no phenomena is inherently self defining or self explaining. However, all of us get accustomed to looking at the world from our own very limited personal and professional stance, and are so habituated to the particular stance that we see only what is obvious to us, and often do not even recognize the lack of obviousness to others. As Alfred North Whitehead once wrote, "it takes a very unusual mind to undertake the analysis of the obvious." Fortunately, we do not need to have such minds to draw one implication from the above intellectual exercise.

It is that the issues and questions addressed to the Disaster Research Panel are primarily not matters of empirical determination, but rest fundamentally on the conceptual definitions and theoretical approaches used, either explicitly or implicitly. These are derived, however, from a variety of social, psychological, and behavioral disciplines, with the differences being further compounded by major differences in objectives or goals with respect to whatever work is undertaken (e.g., those with applied and those with basic knowledge goals). One consequence of this is that the whole disaster area is plagued by a variety of concepts and definitions—including those dealing with the most elementary of phenomena—about which there is little agreement and no consensus.

None of this is to suggest that the questions and issues posed to the panel cannot be answered in some way. In fact, part of the problem is that multiple and varied answers are almost assured. The tendency of some faced with this situation would be an attempt to seek a resolution of the differences in what the empirical evidence supposedly indicates. But our position is that any data, even its existence as data, is based on the conceptual tools used and the theoretical orientations assumed. For example, if a mass kidnapping is not seen as even remotely close to disaster phenomena, anything about the former phenomena would probably be seen as totally irrelevant for dealing with the latter phenomena. If terrorism or civil disturbances are perceived as essentially conflict situations, whereas natural and technological disasters are viewed basically as consensus situations, there may be little of relevance in the former for the latter kinds of situations. If unconscious motivation under stress is not seen as meaningful in a radical behavioral model, the former does not even exist for purposes of the latter. Thus, unless there is a measure of consensus on definitions and models, any discussion will be undermined at best by misperceptions of the positions of others and misunderstandings of one's own position; at worst, there will be attribution of stupidity to others and perfect logic to oneself.

Given this, we intend to set forth our conceptual and theoretical views. Such views are neither the only ones possible, nor are they necessarily the best ones for whatever are the goals of the panel. However, they are being made explicit so that the possibility of later meaningful dialogue might be enhanced. In colloquial terms, we want to indicate "where we are coming from." Our stance structures the literature we take into account, how we assess the validity of the research reported in that literature, what inferences we see can be drawn from such studies, and in general what we see as important and relevant to the general questions addressed to the panel;
including crucial matters the questions slight or ignore (e.g., how is it possible to talk of characteristics of disasters without some indication of the assumed nature and parameters of the phenomena subsumed under the label "disaster?").

Our Views

As we see it, there are at least four major questions that have to be answered in any attempt to distinguish disasters on the basis of the "trauma potential" of various characteristics of disasters which affect mental health—which is essentially the mandate given to the panel. They have to do with:

(1) What constitutes a disaster?
(2) What are the characteristics of disasters?
(3) What is "trauma potential?"
(4) What is mental health?

Before advancing our answers to our questions, we wish to indicate the relationship as we see it between our questions and the questions posed to the panel. Along some lines our questions are more inclusive; along other lines they are less inclusive. From our perspective the issues raised by the questions we posed and not included in the questions presented to the panel are the more important. After a four paragraph general discussion about the relationship, we will take up our own questions.

In the material distributed to panel members Question #1 is not raised. Implicitly there seems to be an assumption that the definition of a major disaster given in Public Law 93-288 should be used. In practical terms this may have to be done, given that NIMH in its relationship to FEMA can presently only work within that framework. Nonetheless, there are at least three major difficulties with such a position. First, it is to accept a legislatively arrived at definition of disasters as the basis from which to make scientific inferences and draw scientific conclusions. The difficulties scholars and scientists have dealing with the phenomena of "crime" when the legal definition is accepted, clearly shows the pitfalls of following such a path. Second, there is the heterogeneity of the situations which will be encountered even if the legislative definition is accepted, since police and other considerations enter into the bureaucratic interpretation of all given instances (thus a localized plane crash or a peachtree freeze get labelled as disasters but statewide blizzards or hotel fires with mass casualties do not). The extreme reluctance of the federal emergency agencies to get involved in the Love Canal or Times Beach toxic situations, or their involvement in Three Mile Island or the Cuban (but not Haitian) refugee situations shows that what is formally written does not always clearly dictate what is or is not done, and NIMH therefore might have to operate in drastically different kinds of situations because the rubric "major disaster" will be differentially applied. Third, NIMH has major responsibilities and undertakes a variety of activities in the disaster area beyond its FEMA linked assistance for mental health services. Care should be taken neither to formalize nor to set a precedent for a conception of disasters which is not supportive of this larger effort. However, even if these reasons are not seen as compelling, and/or the realities of the NIMH-FEMA relationship
have to be accepted, we still do not see how it is possible to talk of characteristics of disasters without some specification of the nature and parameters of what is being categorized under the label "disaster."

Our Question #2 is partly raised in the material distributed to panel members in several ways. There is the listing of "terror, horror, duration, unexpectedness, potential for recurrence, perception of loss of control and symbolic aspect," as characteristics of disasters. This may be satisfactory as a starting point for discussion, but a common thread or a systematic framework from which these "characteristics" of disasters are derived, is not apparent to us. The list is somewhat of a hodge podge, with characteristics of disaster agents seemingly cited in some cases (e.g., duration, potential for recurrence), and characteristics of personal response in others (e.g., terror, horror). These complications are further compounded when the tentative working definitions offered appear to stress perceptual aspects. There is a hint, however, in what is presented that perhaps what is sought is less characteristic of disasters as agents, but disasters as situations or occasions. Our Question #2 is also partially raised in the material distributed to panel members where the issue is raised about whether psychological disaster effects are generic or agent-specific? This would seem a crucial issue on which a position has to be taken before other questions about trauma or mental health are addressed. However, this presupposes some agreement on what constitutes a disaster since the generic/agent specific issue has a direct relationship to the broadness or narrowness of the conception of disaster used. The broader or more inclusive the conception (e.g., to treat as disasters, concentration camp situations, wartime bombings, or terrorist situations) the more agent specific features are likely to be deemed relevant, because of the very definition which is used to categorize the phenomena in the first place. Thus, as we see it, the characteristics of disasters are not independent of the conception of disaster used; furthermore, the characteristics advanced structure to a considerable extent what will be seen as the "trauma potential."

Our Question #3 is couched in terms of "trauma potential" to remain consistent with the charge given to the panel members. However, not even a tentative working definition is offered for the term. Having just reviewed a paper submitted to a journal which in its first part attempted to conceptualize "trauma" and to show its relationship to "stress" has also not contributed much towards our understanding of the term. However, it appears to us that much of what is frequently discussed when the term is used, involves from our perspective, an effort to define who is a disaster victim. In fact, although somewhat in passing, the material distributed to panel members notes that "distinguishing and defining different types of victims would be especially helpful to grant applicants (since failure to define "victims" has resulted in funding delays)." A move in this direction might be especially worthwhile and useful, given the growing belief of some in the disaster area that focus on those directly impacted in a disaster situation may have obscured the possibility that those indirectly involved, such as in helping roles, may potentially have more and different psychological problems than the so-called direct victim. But this issue also is not independent of how disasters are characterized. If a disaster is primarily thought of in situational rather than agent terms, it is much easier to visualize helpers as part of the disaster situation. The general issue to us is how disaster victims are identified.
Finally, our Question #4 is the most directly addressed in the questions and issues given to the panel. At least, working definitions of "mental health problems" are advanced, although there are some significant changes from what the original authors had in mind when they initially developed the threefold typology of mental illness, mental health problems, and problems in living. Moreover, our Question #4 is couched in terms of "mental health," i.e., the usual everyday state or condition which presumably disasters in some way negatively affect. Put this way, our question raises the issue of the goal or objective in providing mental health services in disasters—is it to restore the preimpact state, to bring about some idealized condition of mental health, to enable victims to behave in non-dysfunctional ways in the post-impact period, etc.? It is difficult to see how it is possible to talk of mental health in either the pre- or post-impact periods without some image of mental health or usual psychological state, which, however, in turn is related to the definitions and conceptualizations which are used or assumed about disasters, characteristics of disasters, and disaster victims.

Let us summarize at this point. Our general position is that to start to address the questions and issues given to the panel, some reworking of the questions is crucial and they need to be taken up in a sequential order. It is first necessary to specify the conception of disaster being used. This sets the stage or establishes the parameters for everything else. Then, there is a need to specify the characteristics of disasters. Importantly involved here is the issue whether disasters should be treated as agent specific or generic. Third, it then becomes possible to deal with the matter of trauma potential. However, that matter may be best approached in terms of identifying victims of disasters. The issue of the effects of disasters on victims can then finally be addressed. This probably requires some specification of everyday psychological states of actual disaster victims.

The conceptions and theoretical models used and assumed in dealing with these matters will structure what can be seen as relevant for the purposes of the panel. All this, of course, is what is obvious to us, which may be rather different than what is obvious to others. As Kenneth Burke once very aptly put it, "a way of seeing is also a way of not seeing."

What Is a Disaster?

What is a disaster? Elsewhere, we recently stated that most people in the disaster area have unfortunately avoided explicit and systematic attention to this question (Quarantelli, 1982). Too many have accepted the view that "a disaster is perhaps easier to recognize than it is to define" (Barkun, 1974:51). But while there has been relatively little manifest scholarly attention to the problem, at an implicit level, anyone who conducts studies or undertakes planning for disasters implicitly does have to have an image or conception of the phenomena. From the few explicit discussions (e.g., Carr, 1932; Barton, 1963, 1970; Stoddard, 1968; Kinston and Rosser, 1974; Berren, Belzel, and Shertner, 1980; and Kreps, forthcoming) and the many implicit assumptions about the phenomena, it is possible to pull together what social and behavioral scientists assume or think about when they use the word or term "disaster."
In ideal type terms, disasters have been equated with:

1. physical agents;
2. the physical impact of such physical agents;
3. an assessment of physical impacts;
4. the social disruptions resulting from an event with physical impacts;
5. the social construction of reality in perceived crisis situations which may or may not involve physical impacts;
6. the political definitions of certain crisis situations; and
7. an imbalance in the demand-capability ratio in a crisis occasion.

Some general comments are first in order. There have been changes in emphasis in the course of the efforts to reformulate the term disaster. The first three formulations listed above, the earliest in the area, primarily have physical referents. For about two decades now, however, socially oriented definitions have also been advanced, with probably Fritz's (1961) statement being a turning point in setting the stage for later definitions of a more social nature. If anything, and as we will discuss below, the more recent definitional and conceptual attempts, as manifested in the last four formulations listed above, have been variants of an attempt to view disasters as essentially social phenomena of some kind. The emphasis has been changing from the physical happening to a focus on social situational aspects, that is, on an event, a construction, a political position, or an occasion with particular social characteristics.

To be sure, even most of the newer social conceptions tend to assume relatively identifiable focused events which can be located in space-time terms (Quarantelli and Dynes, 1977). This as critics have noted, leaves unclear the categorical status of very diffuse occasions such as famines and epidemics, that have traditionally been and in common sense terms are classified as being disasters. This, in turn, has led some to argue that the emphasis on a specific event as a distinguishable feature reflects a Western society bias and is unsuitable for identifying disasters in underdeveloped countries (Westgate and O'Keefe, 1976). The most extreme attack is mounted by those who argue that the word disaster is an outmoded concept, a residue from the flow of history which captures relatively insignificant phenomena at best, instead of the newer terrors and pervasive perils that have emerged in the modern world (Barkun, 1974).

The critics just noted may be making some valid points. However, it does seem premature to discard totally the concept of disaster, and it may not be completely inappropriate for theoretical and practical purposes, that the term as used in some current research, scholarly, policy, and administrative discourse does not fully capture what was caught by older, everyday usages of the term. Historically, scientific concepts are often developed by progressive refinements which exclude part of what was pointed to in the original common sense usages of words. For the time being, the better part of wisdom would seem to dictate continuing efforts to answer the question: what is a disaster?

While we will look at each of the seven formulations in ideal type terms, we will ignore the reification and anthromorphism which is rampant in
many definitions of disasters, and the misplaced concreteness and the logical flaws that permeate efforts to conceptualize disasters. Instead, for purposes of exposition, we present the formulations as they are either explicitly or implicitly advanced by social and behavioral science users of the term, "disaster."

1. Disasters as physical agents

The word "disaster" is sometimes equated with certain kinds of physical agents such as earthquakes, fires, floods, and explosions. The basic idea here as Dynes (1976) has pointed out, is that there is "something" which can potentially produce an effect on the environment. These "somethings" are designated as disaster agents, with a frequent distinction being made between "natural" or "acts of God" and "human" or "mankind" agents. Thus, a natural land movement of a certain kind is called an earthquake; the accidental transformation, as a result of human error, of an inert liquid into an expansive gas is called a chemical explosion.

In this image of disaster, there is a search for primarily the physical cause of whatever occurs. Now many philosophers and scientists see a search for cause as a chimerical exercise, since in their view "causality is a property of theoretical systems rather than of the world" (Mullins, 1974:4). However, if one accepts the notion of cause, it follows that there would be different natural causal agents for different phenomena. An earthquake is caused by something different than a fire. Extremely agent specific causes are involved, and knowledge of one agent tells nothing about another. Studies of a radically different nature are necessary for different agents.

2. Disasters as physical impact

Since a disaster agent is not the same as a physical impact, it is not surprising that in some usages the term "disaster" is only equated with the latter. In this usage, there is a disaster when there is some kind of noticeable physical impact in some part of the environment. A hurricane will move air and water; an earthquake will move land and water. But what is important in this conception is that the physical impact is discernible.

Attention is paid in this formulation to both how characteristics of the disaster agent may affect impact, and in what sphere the impact occurs. With respect to the latter, impact can be seen as occurring in the geo-physical sphere or environment, in the biological environment and/or in the socio-technical sphere (Dynes, 1976). Also, certain characteristics of disaster agents are seen as having implications for producing particular types of impact (Dynes, 1975). Thus, it is noted that disaster agents differ in their frequency since they are not randomly distributed over space. Localities generally have to be near a geological fault to be impacted by discernible earthquakes. Tsunamis cannot directly impact areas not bordering on large bodies of water. Disaster agents also differ as to their duration. A volcanic eruption, as in the case of Mt. St. Helens may have a prolonged duration. The usual chemical explosion is of very brief duration. Discernible physical characteristics may not be socially significant, but there is little question that the features of many physical impacts can be ascertained and often in quantitative terms.
3. Disasters as assessment of physical impacts

Discernible physical impacts of disaster agents may occur, but depending on the assessment made, in one formulation, only some would be categorized as "disasters." The event to be classed as a disaster has to be assessed as "disastrous" in some manner or other. This seems to be the reasoning behind—for example, the old U.S. Office of Emergency Preparedness (a partial predecessor of FEMA) report on preparedness for ten natural disasters. Causes and characteristics of each agent are first briefly noted. Then, in more detail, for each agent there is a discussion of their primary and secondary effects, the probability and places of their occurrences, and what they may do to people, property, economy and ecology (Disaster Preparedness, 1972:71-83).

In this approach, there is the notion of a benchmark or threshold beyond which there is a negative assessment which allows for calling the event a disaster. Often the assessing criteria used are implicit, but sometimes they are semi-explicit as manifested in the Mercalli and the Richter scales of earthquakes strengths. Both scales, the first measuring intensity, and the second measuring magnitude, involve combinations of discernible physical impacts and some assessments of those effects. Analogous assessment measures of impact have recently been developed for hurricanes and tornadoes. In this approach to disasters, most would seem to be agreeing with some variant of a statement by Barkun, "Disaster means damage—physical, social, and psychological" (1974:72) although many focus primarily on the physical effects.

The three conceptions of disasters noted above, while similar and related, do have different emphases. In the first conception, the focus is on antecedent conditions or causes responsible for the physical agent. In the second formulation, the distinguishing feature of disaster is that it is characterized by a discernible physical impact. In contrast, something is a disaster in the third conception when the effects are assessed as being notable. Put in other words, the three formulations of disaster respectively stress causes, characteristics, and consequences of physical agents and their impacts.

4. Disasters as social disruptions from events with physical impact

Conceptions of disasters involving social aspects start to come to the fore in this fourth view of disasters. In this approach, a physical impact is characterized as a "disaster" if the magnitude of the impact, as indicated by property damage and casualties, is believed to be high enough to result in disruption of social life. Thus, if there is a degree of destruction of material goods and/or the killing and injuring of people are relatively large, the event is viewed as a disaster. It is a disaster not because of the physical impact per se, but because of the assumed consequences for social life emanating from the physical happenings. As such, this formulation of disasters differs somewhat from conception #3 just discussed because relative emphasis is on the social rather than the physical.

Thus, in this approach to disasters, physical indicators by way of dead bodies and wrecked buildings, etc. are taken primarily as a sign of probable
social disruption. For example, the most frequently used definition by social scientists is that a disaster is

an event, concentrated in time and space, in which a society, or a relatively self-sufficient subdivision of a society, undergoes severe danger and incurs such losses to its members and physical appurtenances that the social structure is disrupted and the fulfillment of all or some of the essential functions of the society is prevented (Fritz, 1961 derived from Endlemen, 1952).

As someone who was personally involved with the group of social scientists at the University of Chicago from whom this definition emanated, we can say that the original statement assumed a very close correlation between extensive physical impact and social disruption. In fact, disasters were to be found for study purposes by noting indications of death and damage since it was assumed that social disruption was a necessary consequence if an event involving major impact had occurred. Although the defining group deliberately and successfully avoided the use of the term, social disorganization, it is clear at least in retrospect, that the definers expected physical destruction or disarray to be reflected in social disorder or disorganization. This use of physical signs to find and identify a disaster, because of the assumed resulting social problems, continues to this day.

5. Disasters as a social construction of reality in perceived crisis situations which may or may not involve physical impacts

The four conceptions of disasters noted to this point assume a physical impact of some kind. However, social scientists in particular have always been troubled by the easily made observation that there is no necessary correlation between physical impact and social activity. The New Madrid earthquake of 1811-1812 had massive physical effects on the typography of the region, even changing the course and channel of the Mississippi River (Penick, 1976). But many do not characterize this major physical upheaval as a disaster, since the area at that time was very sparsely populated and there was very little damage or destruction of property and possibly no loss of life. On the other hand, a completely false story circulating about a major break in a dam above a town precipitated flight and evacuation (see, Danzig et al., 1958). This behavior, however, is not distinguishable from that studied in the actual Teton dam break (see Golec, 1980). So many define both of these cases as instances of disasters despite the lack of any physical impact in the first instance. From the viewpoint of social reality, both of the dam situations had been socially constructed so they were perceived in the same dangerous way by the involved populations. The principle here is an old social psychological one that "if a situation is defined as real, it is real insofar as consequences are concerned." Therefore, to some, the question, insofar as a disaster is concerned, is not the presence or absence of physical impact, but whether there is a belief of threat and danger to important values such as life, well-being, property, and social order.

In this conception of disaster, there must also be a socially constructed perception of a crisis situation, that is, a situation necessitating
unexpected collective action because high priority values are involved (see, e.g., Form and Nosow, 1958 who conceptualize individual, group, and organizational actions where previous modes of behavior are no longer applicable as a crisis situation, and illustrate it from the social aftermaths of a tornado in Michigan). According to this view, actual impact is not the crucial element. As one of the very earliest researchers who grappled with the concept of disasters said: "The nature of agent—flood, fire, wind, poison, disease, explosion, etc.—has meaning as well as consequences; that is, it makes differences in the subjective response of threatened people, as well as in the measures that have, objectively to be taken against it or because of it" (Powell, 1954:11-22). The relevant meaning in this conception of disaster is the perceived need for collective action, a consensus type of crisis in contrast to dissensus crisis (see Quarantelli, 1970). As the Disaster Research Center comparative studies for NIMH of natural disasters and riots showed, there are major differences between the two kinds of happenings, with the difference being summarized in a characterization that the former compared to the latter kinds involve some consensual agreement about the nature of the phenomena (see Dynes and Quarantelli, 1973, 1975).

Clearly this approach with its differential perceptual possibilities as a result of different social constructions of reality make the concept of disaster a relativistic rather than an absolutistic term. In fact, a completely social constructionist approach to the problem can lead to the eventual position that there is no one entity as such which can be called a disaster. As we wrote elsewhere:

A disaster is not a unitary whole. For different areas or communities, for different organizations and families, the "same" disaster may start and may stop at different chronological points. For example, a weather service may start getting involved in a disaster with the first sighting of danger cues picked up by its monitoring system, and its involvement may end after a warning message has been issued. In the "same" situation, the disaster for some governmental agricultural agency may start six months after actual impact because certain crops might not be planted until that time due to salt water contamination, and the organizational involvement may end only two years after that.

The importance of noting this is that what is considered a disaster and its duration can vary, and usually does, even for emergency organizations which may become involved. Thus, what may appear to be an urgent matter to one group requiring immediate action, is not seen in that light at all by another organization. There are differential time involvements and differential time withdrawals from a disaster. A disaster is not a fixed entity out there with a fixed time duration. A disaster, insofar as its existence is concerned, is always a relative matter, varying according to whose perspective is being applied (1977:102).
6. Disasters as the political definitions of certain crisis situations

Certain writers have pushed the social construction of reality approach to one extreme point and have argued that disasters are not only social constructions but basically are political phenomena (e.g., Brown and Goldin, 1973; Westgate and O'Keefe, 1976; and Dombrowsky, 1981). As such, whether crisis situations even get defined as disasters are political decisions in the broad sense of the term. Such political decisions are reflective of the interests of the elite or power holders in a society or community. Thus, in this view, disasters should be seen as certain kinds of political definitions.

It is noted there have been instances of nations officially declaring that no disaster has occurred when by other definitions of disasters there had been such an occurrence. The formal denial of an earthquake, cyclone, or famine disaster in certain cases not only prevents international disaster relief, but in some instances even leads to little or almost no internal domestic response (see, e.g., Freudenheim, 1979). Conversely, of course, there are opposite examples, where "disasters" have officially been declared to have occurred when disinterested outside parties could not see that the designated situation had materially changed from everyday happenings. Thus, some students of the problem argue that definitions of disasters are less related to "objective" happenings than they are to the involved interest of those who can effect the political decision making of a system (see Davis, 1975; Glantz, 1976).

Those who define disasters in this way are not impressed by arguments that in most such cases something has actually happened and that what is involved is simply an unwillingness for political reasons to officially define a situation with a particular label. They observe, as noted above, that the formal designation can make a difference in everything from mitigation and prevention, to response and recovery activities. If, as has happened in the United States in the past, there is an official presidential declaration of a disaster or there is a denial of such a declaration, various resources can or cannot be mobilized, different programs can or cannot be implemented, etc. It makes a difference. Unless one is very naive, it would be foolish to deny that political considerations do not enter into the decision to make or not make a declaration, as well as affecting other aspects of the response to the situation.

For a variety of reasons, disaster researchers and theorists have generally shied away from looking at the political aspects of disaster phenomena (Quarantelli and Dynes, 1977:42). Planners and policy makers involved in disaster-related matters often well understand the issue involved, but they too in general have said very little openly about the matter. Yet it seems that political processes are involved in all aspects of disaster phenomena (for specific research questions, see Taylor, 1978) and particularly whether an occurrence will or will not be called a disaster, with subsequent effects on what happens. For some disaster theorists and definers this is enough to argue that disaster should be conceptualized as a political statement about certain crisis situations.
7. Disasters as an inbalance in the demand-capability ratio in a crisis occasion

There are those who argue that a "disaster" is better thought of as a particular kind of crisis, a social occasion, different from an impacting event, a perceptual construction, or a political definition. These analysts see a disaster when the demands for action exceed the capabilities for response in a crisis occasion. There is a perceived urgent need to act because high priority values are threatened, thus the crisis, but the capabilities—intangible and otherwise—are not enough to meet the demands of the occasion. The occasion (a term taken from Goffman, 1963 and specifically applied to disaster phenomena by Brown and Goldin, 1973) typically requires non-routine and emergent collective behavior. Thus, a tornado is a disaster if non-typical and new social behavior is necessary to generate an appropriate balance between the demands and capabilities present in the occasion. Emphasis in this formulation is not on social disorganization, perceptual beliefs of danger, or elite labeling processes—ideas respectively central to the previous three social conceptions of disasters discussed—but on the collective effort in the occasion to terminate a particular crisis by restoring capabilities to the level of demands.

The ideas involved in this conception of disaster were first generally advanced with respect to the behavior of formal organizations in extreme stress situations (see some of the initial ideas in Thompson and Hawkes, 1962 and later developed by Drabek in Drabek and Haas, 1970; Haas and Drabek, 1973). However, the notions involved are equally applicable at other analytical levels such as individual aggregations, households, non-organizational groups, interorganizational systems or networks, communities or societies. Furthermore, the general idea can be used whether there is just a threat or an actual happening, whether the agent is of slow onset, cumulative and diffuse (e.g., some toxic substances) or rapid, impactive and focused (e.g., earthquakes), or whether the crisis is of very long or short duration. As such, some disaster researchers find value in conceptualizing disasters as crisis occasions where the demands exceed the capabilities. They would generally see their view consistent with the statement that: "on the most general level, an anticipated disaster is a contradiction in terms. Without the element of surprise, defenses both material and psychological, may be erected. Much of the force of a disaster comes from the sudden manner in which it assaults unprepared societies, institutions, and psyches" (Barkun, 1974:57).

For the reasons just indicated, we think that to define disasters as crisis occasions where the demands exceed the capabilities, is the relatively most useful conceptualization presently available. It puts emphasis on behavioral response rather than whatever may generate that response. It turns attention away from the physical features of disaster agents which may be differentially perceived or which in some cases may not exist as physical entities. The formulation also provides some narrowing limits with the focus on a social occasion of a consensus nature, thus excluding conflictive situations be these the result of war, terrorism, civil disorders, and other specifically human generated and maintained situations. The focus on a crisis occasion also precludes equating disasters with "collective stress situations," which could be quite appropriate descriptions of some metropolitan hospital emergency...
rooms on a Friday night or some football teams on a Saturday afternoon. Finally, the formulation emphasizes the collective nature of disasters, that they essentially represent the inability of a group or a community to mobilize its general capabilities to meet the general demands of the occasion. As such, it links disasters to what is or is not available to meet the needs or demands of the occasion, and gets away from an identification of the phenomena solely in terms of some kind of loss or damage, material and immaterial.

To summarize our answer to the question: what is a disaster? From our present perspective, a disaster is a consensus type crisis occasion where demands exceed capabilities. In Goffman's terms a social occasion is "a wider social affair, undertaking, or event, bounded in regard to place and time...[which] provides the structuring social context in which many situations and their gatherings are likely to form, dissolve, and reform, while a pattern of conduct tends to be recognized as the appropriate...or intended one" (1963:18). There are ad hoc or organizationally unprepared occasions, and there are occasions that are regular--part of a series of occasions and occasions that are irregular--one-shot affairs (see Brown and Goldin, 1973:40). Disasters are ad hoc irregular occasions which involve a crises--there is relative consensus things have to be done but the wherewithal available is not enough to meet the demand in the occasion. In a disaster there is considerable variation in how the everyday capability/resource and the demand/need balance gets unbalanced (see, e.g., Haas and Drabek, 1973).

Given this as a definition and conception of disasters, what follows as the possible characteristics of disasters? We lead into this question by first considering the prior issue of whether disasters are agent specific or generic.

What Are the Characteristics of Disasters?

The view of what constitutes a disaster mostly underlies taking an agent specific or an all disaster spectrum or generic approach to disasters. Instead of looking at the separate implications of each formulation, we will limit ourself to making a collective contrast between the first three conceptions, and the last four conceptions discussed above. As a whole, the first three are either consistent with or require a generic disaster approach.

Especially with respect to conventional geophysical and meteorological agents, worthwhile work has long been undertaken on specific physical agents. Even if the mysticism of causation is set aside, it is certainly meaningful to ask why, for example, the earth sometimes suddenly shakes and to answer that it results from the movement on a fracture of the earth's crustal rocks, usually by a sliding along a rupture plane or fault. It does not matter in such a framework if there are no discernible human or social consequences from the physical agents. In fact, the vast majority of earthquakes are not even discernible except by sophisticated measuring instruments. Thus, it has been estimated that "perhaps as many as one million earthquakes occur each year over the globe," but that only perhaps 6,000 of these are felt by human beings (from Cornell, 1976:110). Nevertheless, there is a physical phenomena, whether sensed directly by humans or not, the agent dynamics of which can be and are usefully studied.
But an important question is whether it is equally valid to also look at earth-
quakes of chemical explosions as a special and unique case of a disorganizing
event, a perceptual construction, a political definition, or a particular
kind of crisis occasion? Put another way, will social and behavioral scientists
gain more by approaching earthquakes or chemical explosions as very agent
specific disasters or looking at them as but one member of a broader class
of disasters and sharing much in common with such other disasters?

Our answer is that more is to be gained by taking the latter rather than the
former position. It is not only defendable but necessary, for example, for
seismologists to look at earthquakes as disaster agents in very specific
terms. It is not as defendable for social and behavioral scientists to do
so; it is far more useful for them to approach disasters involving earth-
quakes as part of a more generic class. In fact, we think it becomes in-
creasingly necessary to do so as one moves from a conception of a disaster as
a disrupting event to one of a crisis occasion, although we will not argue
this point further.

The socially oriented conceptions of disaster force a focus on the properties
of the social happening and away from the characteristics of disaster agents
and impact as such. Vastly oversimplifying for purposes of illustration,
was it important that in the San Fernando earthquake of 1971 approximately
60 persons were killed and two hospitals were put out of commission? For
certain purposes, yes. But for other purposes, it is far more crucial that
in terms of the demand-capability ratio of that occasion, there were seven
and one-half million "survivors" and 120 intact hospitals. If we use these
simplified figures only, there is even a question of how much the occasion at
San Fernando was a disaster; a strong case could be made that Three Mile
Island with no known casualties and almost no property damage was far more
of a disaster. It is neither the properties of the disaster agent nor of
physical impact which are crucial, but the nature of the collective response.

More important is the fact that social factors can be quite similar across
many social occasions in a way agent characteristics cannot be (and even less
than we ourselves once postulated, see, e.g., Quarantelli and Dynes, 1970:328).
This can be more than stated. While it is an occupational disease of
researchers to complain that very little is known about whatever they are
studying, and this lament has been expressed about the disaster area (see,
e.g., Mileti et al, 1975; White and Haas, 1975), the fact of the matter is
that we are not totally ignorant of sociobehavioral aspects of disasters,
and that relatively speaking we have advanced tremendously in knowledge and
understanding since the first social scientists took to the field to study
disasters in the United States in the middle 1950's and in the early 1960's
in Japan. Although scholarship about past studies is not a strong point of
many recently involved researchers in the area, and the wheel unknowingly keeps
getting reinvented again, the current knowledge base is substantial even
though uneven, and should be taken seriously, including recognizing where much
is known and where little is known.

Crucial for the argument in this paper is that the cumulative research and
theory in the disaster area shows that there are many sociobehavioral
features which are not disaster specific and cut across many different types
of disaster agents. Thus, it has been possible to derive principles of disaster
planning and emergency management. In a recent disaster primer in a discussion of similarities and differences between community planning for natural hazards and chemical hazards, some differences are noted, but it is then observed that

these differences do not necessarily rule out the application of principles of natural disaster planning to problems of chemical hazards. In fact...studies on natural disaster planning and response can be of value for persons connected with chemical disaster preparedness.

It is then stated

regardless of the characteristics of a particular disaster agent and the specific demands generated by it, the same kinds of community response-related tasks are necessary in both kinds of disasters and for all disaster phases. In any community, for example, the assessment of hazards and the aggregation of disaster-relevant resources are necessary, regardless of the specific hazards and resources in question. Similarly, post-impact communication and decision-making procedures must be planned for and activated in any community crisis.

To draw an analogy, a battle on land is fought with different weapons, material, personnel, and support systems than those used in sea battles, but, nevertheless, the general overall battle requirements are the same for both. In both cases, intelligence about enemy strength and movements must be gathered, resources must be collected, trained personnel must be led effectively, and so on. The same is true for disaster planning; although disaster agents and the human and material resources needed to respond to them may vary, the same generic kinds of activities must be performed in the predisaster, preimpact, response, and recovery periods, regardless of the specific threat (Tierney, 1980:18-19).

At a less abstract level, we have in the disaster area, for example, substantial research findings on such disaster relevant topics as warning (e.g., Miletie, 1975 and Perry, 1979), evacuation (e.g., Quarantelli, 1980 and Perry, Lindell, and Greene, 1981), delivery of emergency medical services (e.g., Taylor, 1977 and Quarantelli, 1983), search and rescue (Drabek et al, 1981), family behavior (e.g., Bolin, 1976, 1982; Drabek, 1969; and Drabek and Key, 1983) etc. We also have considerable understanding of such disaster related problems as looting (see, e.g., Quarantelli and Dynes, 1969) and panic flight (Quarantelli, 1979). The point in noting these few examples, from the very many other studies which could be cited, is that they are typical in their ignoring of the specific disaster agent which might be involved. The findings are generalized across-the-board because the research effort was not agent specific. Thus, when Parr wanted to understand the emergence of groups on disaster occasions, he looked at the Alaskan earthquake, but also tornado, explosion, flood, and plane crash disaster occasions (1970). Anderson in order to develop our knowledge of civilian-military disaster relations looked at earthquakes in Chile, Japan, and El Salvador.
but tornadoes and floods as well as the Alaskan earthquake in the United States, and a dam disaster in Italy (1969). Scanlon in his examination of rumor and news story flaws in disasters has drawn from a tremendous variety of Canadian disasters, mass emergencies, and other kinds of collective stress situations (see Scanlon and Frizzell, 1979).

It has also become increasingly clear that what has been called response generated demands are far less agent related than what has been called agent generated demands in disasters (see Dynes, Quarantelli, and Kreps, 1981). The latter (never visualized as agent specific, however) are demands or tasks generated by a disaster when it impacts or threatens to do so and includes such activities as warning, search and rescue, care of the injured, welfare needs, restoration of community services, etc. Response demands, in contrast, are those tasks which must be carried out if the agent related demands are to be met at all and include communication, continuing assessment of the disaster situation, mobilization and utilization of human and material resources, coordination and exercise of authority. Although there is no time space to document the point, Disaster Research Center studies do suggest that even agent demands are inherently related to the social occasion involved and seem to have little direct relationship of any kind with any specific agent dimension. In research on planning for and response to acute chemical emergencies, chemical agent related dimensions proved less directly important than originally hypothesized (see Gray and Quarantelli, 1981).

Even when social aspects seem agent specific related, closer examination frequently indicates that is not the case. For example, the concept of disaster subculture was initially linked to a specific agent, a flood subculture, a hurricane subculture, etc. (see, e.g., Moore, 1964; Osborne, 1970; Wenger, 1978), but now there is reason to believe experience and other situational factors are more important in the development of the subculture than the characteristics of the specific disaster agent per se.

We have cited mostly emergency time disaster phenomena but other topics could be cited such as resistances to hazard mitigation measures, disaster insurance (e.g., see Kunreuther et al, 1978), obstacles in recovery and reconstruction work, long run demographic and economic consequences of disasters (see, e.g., Rossi et al, 1978). Here too the findings are disaster generic rather than agent specific. Most of the work mentioned is derived from the American scene, and there may be cross-cultural differences in some respect (see, e.g., Cattarinussi and Pelanda, 1981; Hirose, 1981; and as suggested by McLuckie, 1975), but if so, a social occasion rather than agent specific differentiating factor is probably involved.

We think an all disaster spectrum or generic approach is justified whether problems are divided by time stage, by functions, or levels of response. That is, flood or explosion related issues can be looked at in terms of the pre-impact, the emergency, and/or the post impact periods. Similarly, flood or explosion problems can be divided with respect to functional tasks such as mitigation, preparedness, response, and/or recovery. The responding units may be individuals, households, groups, organizations, communities, societies, or international systems. Our view is that we will gain more regarding time stages, functions, or levels of response by considering earthquakes or explosions as a member of a more generic class of disasters. Thus, we would
argue that even earthquake predictions are not that agent-specific a case, and in fact, a recent statement by Turner (1980) seems to imply that much of what we know about how people respond to threats and warnings for other dangerous possibilities, is equally applicable to prediction scenarios for earthquakes (but compare, Panel on Public Policy Implications, 1975).

It may sometimes appear that a generic approach to disasters may put together rather dissimilar kinds of physical agents or other heterogeneous elements and otherwise violate common sense. In one way, this is correct but not necessarily significant. An analogy may make this point better than a direct discussion.

Biologists have long classified whales, bats, and human beings as mammals. There are many manifest differences in sizes, structures, and functions of these three creatures, but these obvious common sense differences, for purposes of biological study and application are far less significant than less overt structural and functional similarities. Thus, all mammals are warm blooded, bear their young alive, etc. For these purposes, the physical size of a whale compared with a bat, or that the former necessarily needs a water environment whereas human beings basically have to live in a land environment, etc. are unimportant and irrelevant. To put together manifestly different physical agents or overtly distinctively different disaster related elements can be viewed in a parallel fashion.

The general position we have expressed is hardly unique to us. When the United States Congress was considering the Implementation Plan required by the Earthquake Hazards Reduction Act of 1977, the Office of Technology Assessment was asked to develop "Criteria for Evaluating the Earthquake Mitigation Implementation Plan." A summary of the report which discussed the criteria said a major issue was "earthquake versus an all natural hazards strategy." With respect to this matter, the report concluded that

While it may be convenient for researchers and the large federal agencies to handle hazards categorically, the practicalities of state and local government organization and function increasingly require integrated planning and operations for all hazards. Similarly, federal construction and housing programs also could be responsible to all hazards, not just to one or a few selected hazards. (Quoted in THE HAZARD MONTHLY, July 1980, p. 3; see also Coates et al, 1979.)

Finally, even FEMA has finally turned to an integrated, comprehensive, and essentially generic approach to disasters.

The generic approach to disasters is not one all find easy to accept. This is understandable, even apart from differences in conceptualizing disasters. There are a number of other reasons—bad, indifferent, and good—for not accepting or agreeing with a generic disaster approach. There is a historical reason. Much early work on disasters initially focused on the physical agent, and to some this becomes a habitual and traditional way of doing things. As said earlier, "a way of seeing is also a way of not seeing." We have observed a similar reluctance to moving away from an agent specific orientation in the fire research and chemical hazard areas. Researchers and operational
people in those two areas have been struggling with questions as to the physical agents involved and the agent specific characteristics of the agent. Accustomed to thinking in that way, they have difficulty in seeing that sociobehavioral studies of other disaster situations have direct applicability to their own areas. But even in these areas the generic disaster approach is making headway (see, e.g., Tierney, 1980).

Even recognizing that there may be a more valid approach than an agent specific perspective is handicapped by the fact that many of us involved in disaster problems have difficulty in communicating because our worlds of specialization and knowledge are different. Some of us are specialists and/or knowledgeable in depth about one kind of disaster agent—it may be hurricanes, famines, or explosions. Others of us are specialists and/or knowledgeable in depth about topics and questions that cut across various kinds of disasters, and thus, we may primarily think in such topical terms as warning, evacuation, medical treatment or care of the dead. In a sense, some of us divide the disaster world horizontally; others of us divide it vertically. This does not facilitate communication from one axis to another. Furthermore, we believe that it is more difficult for vertical communicators (agent specific specialists) to understand horizontal communicators (general disaster specialists) than vice versa.

Finally, the usefulness of an agent specific and a generic disaster approach to disaster varies with the purposes involved. It can be quite valid to resist an all disaster approach. It is functional to take an agent specific approach for certain purposes, but it is not true for all purposes. We have tried to show why with respect to sociobehavioral aspects a generic approach would be the more fruitful approach (see also, Dynes, Quarantelli, and Kreps, 1981).

At times, when the polarity in approach is raised and discussed, a statement is made to the effect that, yes there is a difference in approach possible, but the division is a practical versus a theoretical one. Thus, it is said that operational personnel faced with dealing with an immediate emergency situation, need agent specific knowledge. How far do people have to be evacuated to avoid the toxicity or flying debris if a tanker of chlorine is threatening to explode? On the other hand, it is said that those with more theoretical concerns can deal with more generic questions. What, for example, are the general factors which are involved in motivating families to evacuate?

We do not see the practical-theoretical distinction as a valid one. It seems to us to confuse tactical matters (e.g., the distance to evacuate), which would vary in any situation involving either similar or different disaster agents, with strategic matters (e.g., general principles of motivating applicable in all situations). There are strategies for dealing with disasters which cut across disasters; the tactics may be more situationally specific although even the military from where the strategy-tactics distinction is drawn seems to feel that soldiers can be taught tactical principles.

We can also note that such a practical and applied field as medicine, generally proceeds as if planning and responses in disasters need not be agent specific. It is extremely rare to find disaster medical personnel training and
preparing for only one kind of medical treatment. Disasters are viewed generally (e.g., the World Health Organization defines a disaster as "a situation which implies unforeseen, serious, and immediate threats to public health," see LeChat, 1980:18), and disaster medicine emphasizes general principles and organizationally focus is on triage, allocation of patients to hospitals, and other non-specific disaster agent aspects. Parenthetically, it was the Disaster Research Center's extensive studies of the delivery of emergency medical services in mass casualty situations (Quarantelli, 1983) which have been an important influence in our own thinking about the importance of taking a generic approach to very many disaster problems and issues.

However, there would be considerable theoretical and practical usefulness if we could develop a meaningful typology of disasters. Although the first analytical typology was offered more than a half century ago (Carr, 1932), most efforts today still do not go much beyond the simple and unrewarding distinction, for example, between acts of God versus human generated disasters. What we need in the disaster area instead is the development of a typology which uses general dimensions which not only cut across different disaster agents, but also the same disaster agent. As many have said what is important is not the physical differences between an explosion or an earthquake, but that neither usually allows time for warning, etc. Or as others have said, "...a flash flood resulting from a broken dam might have more similarity to a sudden tornado than to a slowly rising Mississippi River flood" (Stoddard, 1968:12); "...a flood in Cincinnati for which there may be two weeks warning is simply not a comparable event to a flood in Denver with six hours warning, or to one in Rapid City where warnings were received as flood waters entered dwellings" (Mileti et al., 1975:5); or "differences between damaging events due to the same natural or man-made agent may be larger than between events initiated by a different agent" (Hewitt and Burton, 1971:124). If we could develop disaster typologies based on combinations of meaningful dimensions of social occasions, we could better grasp the commonality of sociobehavioral phenomena across different agent differences and differences within the same agent. In our view, all the typologies advanced, and all the dimensions suggested for typological comparisons, are flawed in very serious ways, often because they have no clear conceptualizations of disasters or mix together rather different conceptions such as the seven ideal-type ones we discussed earlier. This is true even of some unpublished formulations which are far more sophisticated than anything that has reached print form so far (for example, the typological dimensions of a physical, temporal, and social nature used by the National Academy of Sciences Committee on U.S. Emergency Preparedness which made a very systematic comparison of nuclear and nonnuclear emergencies; only very limited, highly selective, and non-Academy attributed from this study excerpts of a substantive rather than methodological nature have been published, see Perry, 1981, 1983; Quarantelli, 1982; Kreps, forthcoming).

Our view is that perhaps the best which can be done at the present time is to suggest some of the dimensions which ought to be considered in eventually developing a typology. To name such dimensions is to indicate significant features or characteristics of disasters. This in turn, as already noted, requires starting with some conception of disaster.
Our conception of disaster necessitates looking at the dimensions of the crisis occasion involved. The following are some dimensions which might be regarded as important. They are neither presented systematically nor in any particular order, because we would have little feeling of confidence in such an orderly formulation. Also, in terms of the logic of our conceptualization we ought to be presenting dimensions which affect both the demands and the capabilities in the crisis occasion. This distinction is only faintly implicit in what is set forth. Finally, we assume that the response in the crisis occasion we are talking about is by the population in the affected community (we leave aside here the troublesome question of what constitutes an affected community because that issue is discussed in our second paper).

Among major dimensions or characteristics which could be singled out with respect to the response of the population in a disaster occasion, we will discuss eight of them in what follows. Given our conceptualization of disaster, our emphasis is on characteristics of the occasion, and not on dimensions of an agent (even if there is one which is not always the case). Furthermore, the characteristics noted are those which either in terms of logic or some empirical observations would appear to be potential creators or facilitators of negative mental health consequences.

1. The proportion of the involved population

The proportion of the population involved relative to some base is more important than absolute numbers. This is true whether the focus is on concrete losses or only psychological involvement. For example, 61 dead in the Indianapolis Coliseum explosion involved relatively less of that community than did 34 dead in the Xenia tornado, given the affected population bases in the two communities. The same absolute numbers might mean a catastrophe in some communities, and only a bigger than usual emergency in others. In more general terms, this disaster characteristic has less to do with geographic scope or the physical impact of the disaster agent than it has to do with the social scope of the disaster occasion. The degree of community involvement has to be identified in social terms and relative to the total population base. Generally, it might be supposed that the higher the proportion of the population involved, the more likely the disaster occasion will be worse from a mental health point of view. This assumes everything else is equal, which of course it never is, but that has to be assumed in almost any proportion which could be advanced.

2. The social centrality of the affected population

Green (1982) suggests looking at whether the affected population is central or peripheral with respect to the larger geographic community. While this idea is implicit in some discussion of long ago about the victims of the Cocoanut Grove night club fire, and is specifically mentioned in earlier discussions of airplane disasters (e.g., Quarantelli, 1980), the more general and systematic formulation of this disaster discussion as written about by Green, would seem worthwhile pursuing. The lack of post-impact social support which victims suffer when they are socially peripheral to the larger community population has been shown to be important in mental health consequences, not only in American but, in a more complicated way in Australian disasters (see, e.g., Parker, 1975; Milne, 1977). The occasion of one disaster
may involve a rather different population mix than another even with an
identical disaster agent in the same community (as when a tornado were to
hit a crowded airport terminal one time, and a large, local church bingo
game at another time in the same community, thus perhaps making victims of
many transients in the first occasion, and many long time and closely
socially linked neighborhood residents in the latter occasion). The degree
of social centrality of the involved population would appear to be an
important characteristic of disaster occasions in understanding both mental
health problems and the problems of providing disaster mental health services.

3. The length of involvement of the affected population in the crisis

There is almost certainly some relationship between length of involvement
in crisis occasions and possible mental health effects, but it is doubtful
the relationship is a linear one. For example, generally speaking, the
longer a population is involved with a threat, the more likely there will
be an adjustment to the threat, with the possible setting in of a desensibi-
\izing process. In the recent Ft. Wayne flood, for instance, it was our
impression that there was decreasing concern and fear about an actual flood
disaster as the crisis occasion for the population went from hours into days,
and even though the actual possibilities of the levees giving away increased.
On the other hand, it could be argued that there is some accumulative process,
the longer the length of involvement in a social crisis. The idea of course
is that there is some threshold or breaking point. Despite the murkiness
of the little empirical data available on this particular question, it would
appear mental health consequences are linked to length of crisis involvement,
perhaps in both directions. Length of involvement refers, of course, to the
population crisis response in the disaster occasion and is not to be con-
fused with duration of the threat which is usually thought of as a dimension
of the physical agent. Thinking of length in the sense indicated allows us
to take into account that in some disaster occasions, the duration of the
primary disaster agent is short but the length of crisis involvement is much
longer because there may be secondary threats (thus, a transportation acci-
dent may be over in a few minutes, but the threat or actual slow release of
toxic chemicals from a wrecked train may generate a crisis which may last
for days, such as at Mississauga where the actual danger was over almost
immediately after the train wreck (see, e.g., Gray, 1981). Or as a number
of disaster researchers have noted, there could be an occasion such as Three
Mile Island where the duration of the incident was relatively short, but
the length of the crisis for certain segments of the population continues to
this day.

4. The rapidity of involvement by the population in the crisis

In some disaster occasions, the population becomes slowly involved in the
crisis. Generally, populations adjust well to such occasions and there might
not even be much of a crisis. On the other hand, there may be very rapid
involvement in a disaster occasion. Adjustment seems to be much more diffi-
cult in those cases, presumably raising the probabilities of mental health
consequences. Most riverine floods and flash floods are almost ideal polar
type examples of the differences in these two kinds of occasions, but as
said earlier, there are also generic differences which cut across agents.
The Rapid City flood, many dangerous chemical emergencies resulting from
transportation accidents, the false story of a dam collapse at Port Jervis,
New York, and the Kansas City Hyatt Regency hotel walkway collapse, are examples of the kinds of occasions in which the affected population is quickly involved. This matter of rapidity of involvement while at times related to the next characteristic to be discussed—predictability—is nonetheless independent of it. Predictability has to do with expectedness, rapidity has to do with speed, and the two can vary independent of one another. Also, we treat rapidity of involvement as a characteristic of the disaster occasion which should not be equated with speed of onset, which is a feature of some physical disaster agents. Rapidity refers to what happens in the response pattern and is from the perspective of those involved, and thus may or may not correspond with the actual time available for action. Mental health effects stem not from how long in some chronological sense people have available to act, but rather from whether they perceive themselves as having to hurry to save threatened values; in other words, they see themselves in a crisis in the sense earlier discussed.

5. The predictability of involvement in a crisis

As just indicated, populations can at times predict their possible involvement in disasters; in other cases, the crises are unexpected. Such evidence as there is, all indicates that the unexpected is much more psychologically disturbing than the expected. This matter of predictability may also be related to other dimensions. If it is possible to predict one may become involved in a dangerous situation, culpability for the involvement is more likely to be attributed to self. If, as appears to be the case, in Mt. St. Helens and Three Mile Island predictability is very low, others are more likely to be held culpable. Also, if predictability is high, as in the instances of populations living close to chemical plants or complexes, as the Disaster Research Center recent study suggests, there is greater sensitivity to danger cues, willingness to act upon them, and less trauma in evacuations. Finally, if predictability is low, we would speculate there would be a tendency for a strongly affective reaction. The common thread in all this is the element of the unexpected, where people in the community are unable to bring their normal routines and coping mechanisms to deal with the crisis. While most people end up behaving relatively well in such immediate crises, there is undoubtedly considerable stress and strain which may have untoward psychological consequences.

6. The unfamiliarity of the crisis

Along with low predictability, high unfamiliarity with a disaster occasion also appears to be rather psychologically disturbing. The unfamiliarity can be of different kinds. It can be unfamiliar in the sense of being unusual. Few people have had the experience of undertaking search and rescue activities, for example. The unfamiliarity may be in terms of being unable to avoid very unpleasant or traumatic situations such as the sight of dead bodies, badly injured people, etc. As will be discussed later, this is a particular perception that the overwhelming majority of people find highly disturbing, and it often creates behavior dysfunctionality such as unwillingness to continue to handle dead bodies.
The unfamiliarity of many disaster situations is also in the sense of often having to deal with many and varied tasks in very short periods of time—what during normal times is spread out is often almost simultaneous in a disaster occasion. A strong element, in most of these situations, although not always present, is a perception of being unable to control what one is subject to—situations impinge themselves upon the disaster victims. The quantity and quality of the unfamiliar that is present in many disaster situations is bound to have mental health effects.

7. The depth of involvement of the population in the disaster

It is possible, and apparently is being done in a phase of this study in which the panel is not involved, to take certain kinds of losses (e.g., deaths of family members, loss of home, forced move, etc.) as an indication of the impact of a disaster. However, for the purposes of the panel, it may also be necessary to consider losses in one sense as a characteristic of a disaster occasion. But here again, as in the instance of the first characteristic we discussed, the relative nature of what is involved may be more important than absolute features. In particular we have in mind how relative deprivation may differ significantly from one disaster occasion to another. Thus, there is some evidence from which it could be argued that the degree of relative deprivation which exists in a community would have mental health consequences, although not necessarily always for the negative. The perception of relative deprivation, of course, can be not only in relation to other people, but in relation to one's own standard of living, although the latter is very complicated. Some poor populations may in absolute terms lose less than some wealthier populations, but the psychological stress may be higher for the former group.

8. The recurrency of involvement

Sometimes involvement in disaster occasions is a recurrent happening for some populations. That is, it is not a new experience. However, the fact that there has been prior experience, or even many experiences appears to be far less important than that the prior experiences have been incorporated into ongoing attitudes and behaviors. The extreme example of this is where a community develops a disaster subculture which studies indicate is not directly related to frequency of occurrence (see earlier noting of disaster subculture for references). Disaster subcultures, in terms of our interest in mental health problems, are essentially quasi-routinize disaster occasions and this makes them much less disruptive and disturbing. However, if recurrent experiences are not so quasi-routinized, it is possible that they would become increasingly a source of psychological stress and strain, but we are not aware of clear cut evidence about this possibility. So recurrence as a disaster characteristic may work in opposite directions, depending on the prior development before the most recent occasion, of a disaster subculture.

Before proceeding further, we should indicate our reluctance at stopping at this point in discussing specific characteristics of disasters, because what we have noted so far primarily reflects the needs/demands side of how we have conceptualized disasters. If disasters represent social occasions involving an inbalance between demands and capabilities during a crisis, logic would
dictate a discussion of the capabilities/resources side of the question. For example, the degree of social preparedness of a population or community, would be a characteristic of a disaster occasion in this kind of approach, and it could be argued that the degree of preparedness prevailing would have mental health consequences. Some, of course, would treat this and other similar characteristics as intermediate or intervening variables in a model, but from our perspective that misses the point and continues to assume that a disaster is "something" that comes from outside the social system involved. It is interesting that European and Canadian critics of mainstream disaster studies mostly carried out in and by researchers in the United States, all cite this assumption as a basic theoretical but unrecognized flaw in the disaster research undertaken by social and behavioral scientists in the United States, since it is obvious to them that a disaster is the manifestation of internal societal vulnerabilities and weaknesses and is not something that impinges on the system from the outside (see for example, O'Keefe, Westgate, and Wisner, 1976; Westgate and O'Keefe, 1976; Jager, 1977; Waddell, 1977; Dombrowsky, 1981; Pelanda, 1981, forthcoming; Hewitt, 1983). A few researchers in the United States have started to move slightly to address the criticisms, see, e.g., Quarantelli, 1982; Kreps, 1983, forthcoming). However, without fully accepting this idea, and having made the general point of how we think disasters ought to be conceptualized and the implications of that in concerning the characteristics of disaster occasions, we will not, because of practical and theoretical reasons, pursue the specifics of this point any further in this paper.

Given some degree of presence of the eight characteristics or dimensions noted above, the end result would be some degree of disruption of or deviation from the pre-impact or normal routines of the population. Clearly in all of the features, the question is not one of absolute presence or absence, but of degree in terms of the response pattern of the totality of the population. Thus, even in a disaster subculture, not all of the responding population will be part of that subculture, and even those that are a part will vary in their involvement with that subculture. Then there is the matter that the different characteristics and dimensions are probably interactive with one another. It is likely, for example, that the higher the degree of predictability of involvement the higher the rapidity of involvement in the crisis.

In the instructions to the panel for this paper, both the issues of weighting or quantification, and of interacting factors are raised. The objective in both cases is laudable, but in our view far beyond any attempt given the current understanding of the phenomena being discussed. We may note that the disaster topic which has been most studied is probably that of disaster warnings. It is fairly clear now that certain perceptual aspects of warning messages are crucial in an acceptance of and a response to the warning—such matters as perceived danger to self, immediacy of the danger, certainty to the danger, etc. (see Mileti, 1975; Perry, 1979; Quarantelli, 1980). However, no researcher has ventured to suggest except in a very nominal way, that weights should be assigned to the different factors. Some fairly sophisticated statistical techniques such as path analysis have been used to attempt to assess the weighting and the interactive effect of the warning factors (see, e.g., Perry, Lindell, and Greene, 1980), but no one would seriously suggest that major inroads have been made into solving the problem. If the problem of weighting and interaction is at such a primitive level in a topical area
such as disaster warning, which has been both quantitatively and qualitatively far better studied than the topic of mental health in disasters, it would not appear that this panel could make much headway on a similar but less well studied problem. Weights could be assigned and interactive effects could be posited, but they would not be derived from any meaningful empirical base. There is a worthwhile research agenda in all this, but at present there is little that a researcher user could use. (It may not be amiss to note that FEMA is currently attempting to derive a weighted scale of community hazardousness, which has certain parallels to trying to develop a scale of the mental health impacts of disasters, and the effort is plagued by many of the same problems we have just mentioned.)

Finally, to conclude this section of the paper we will make some further comments on the list of disaster "characteristics" presented to the panel. Four "characteristics" on the list—unexpectedness, potential for recurrence, perception of loss of control, and duration—we have directly commented upon in some way of another under our own listing of characteristics of disasters, although it is possible that there may be only surface correspondence between what we discussed and what may have been intended by the author of the list.

We have not so far directly or consciously even indirectly dealt with "horror" or "terror" because we are uncertain of the possible referents of the terms and as indicated earlier, their placement under "characteristics" of disasters. The working definitions provided are clear enough, but many if not most soldiers who have ever been in military combat situations would see little connection between the working definitions, common sense connotations of the terms, and their subjective feelings in the situations indicated in the working definitions. Also, little of the disaster research literature we are acquainted with, use these terms as central concepts in any way. If the terms are used to try to bring an affective or emotional component or side into a discussion of the problem of mental health in disasters, that is more understandable and worthwhile pursuing. If that is the objective, it is somewhat puzzling that neither of the two terms are used in the NIMH Training Manual for Human Service Workers in Major Disasters (1977) even though there is a section on "disaster-related emotional problems" and "fears" are one of the categories of problems discussed.

However, from the two examples given under "horror" it is possible to suppose that what is being partially suggested is what we earlier partly discussed under the notion of unfamiliarity in a crisis occasion. There are a number of different aspects to this matter. For example, people have different images of different kinds of threats, and they are clearly most concerned and afraid of those that are most unfamiliar to them such as those associated with nuclear power plants and chemicals (the knowledge people have of many natural disaster threats may actually be not much better, if at all, than they have of other threats, but there is little doubt some threats are perceived as more unfamiliar and therefore more worrisome to most people). Also the great majority of people as noted in studies on handling of the dead (see Hershiser and Quarantelli, 1976; Blanshan, 1977; Blanshan and Quarantelli, 1983) are unfamiliar with dead bodies, especially large numbers of them—at least in American society, and are very psychologically disturbed if they have to directly deal with the dead. Finally, very few Americans are accustomed to seeing very
badly injured people or badly disfigured live or dead bodies; such an unfamiliar sight in a disaster occasion is usually very psychologically upsetting (many transportation kinds of disasters, as well as flash floods, tend to generate such sights [see, for plane crashes, Quarantelli, 1980] which often are not only disruptive of search and rescue efforts, but also are psychologically very disturbing). In fact, it might be hypothesized, although the research data on this matter is far from solid, that the kinds of unfamiliar scenes we have just been discussing may not only be among the most psychologically disturbing for disaster victims, but also behaviorally dysfunctional (first responders who are not direct disaster victims may react in the same way and might be more psychologically vulnerable just because of the fact they are not direct disaster victims, some impressionistic field observations suggest). All in all, if the matters we have just discussed are what is meant by "horror," we agree that the topic ought to be of major interest to the panel even though any position taken, it seems to us will rest more on educated speculations rather than much empirical data.

Finally, there is in the words of the instructions to the panel the matter of "symbolic aspects (such as blame in manmade disasters)." The symbolic example used is perhaps a particularly unfortunate one. Blame does occur in many disasters, natural as well as human created ones, and there are a few publications on the topic (see, e.g., Veltford and Lee, 1943; Drabek and Quarantelli, 1967; Nigg and Cuthbertson, 1982). However, to treat this in conjunction with mental health problems seems a dubious enterprise at best, and in a variety of ways—philosophically, legally, morally, politically, etc.—dangerous. How is one to interpret the behavior of the plaintiffs and their supporters who blamed the company for the disaster in the Buffalo Creek situation? What of the citizens who are banding together in numerous communities around the United States and blaming government and private officials and companies for subjecting the public to hazardous waste dumps and nuclear power plants in their communities, lack of flood control measure in their neighborhoods, failures to activate tornado warning systems, etc.?—in what sense are such activities being currently studied by the Disaster Research Center (for an initial report, see Quarantelli et al., 1983), related to mental health? Distinctions, of course, could be drawn between "rational" blame and "irrational" blame, but that simply begs the question. At least from a philosophical viewpoint, in a democratic society citizens not only have the right but the duty to assess responsibility and seek redress, and also, according to some commentators, additionally should be encouraged and assisted in doing so (in fact, many of the religious groups such as the Interfaith organization which typically arrive or emerge in American disasters of any magnitude, see their roles as one of advocacy—which in very many instances involve blaming some officials or agencies for what is or is not happening in the post-disaster period). If FEMA or any other disaster-related agency at any level is inept, inefficient, incompetent, or otherwise not doing what it should be doing, and is being blamed by citizens or other officials, there should be nothing available which would allow the disaster victims to be categorized as psychologically disturbed. To indicate the assigning of blame in any way is related to mental health problems would be, to reinforce the view of some officials that there is something psychologically wrong with citizens who criticize (or blame in some way) any pre-trans- or post-disaster activities by governmental agencies. This is not
purely a hypothetical possibility for this view has been expressed to us more than once by high government officials involved in providing disaster services. There are shades of the Soviet Union here where many of those who criticize (blame) the state or system are defined as mentally ill.

What is "Trauma Potential?"

We have already indicated our problem with the idea of "trauma potential" and our preference to reformulating this into a question about who is a disaster victim? Whether or not this connection is a valid one, specifying who is a disaster victim would seem to be a central task for the panel given the general purpose for which NIMH is supporting this work. Unfortunately, this is a question on which there is little conceptual literature. We also have no major formulation to advance, but it seems to us that there are at least three issues which need examination in connection with addressing the question of who is a victim.

First, it seems clear that any conception of victim has to go beyond including only those immediately and directly impacted at the emergency time period of the disaster occasion. On the other hand, a line has to be drawn somewhere, for otherwise, as argued in a publication that at present we cannot locate, anyone who has even the least and indirect contact with a disaster experience, such as reading about it in a newspaper story, can also be classified or categorized as a victim. But if everyone is a victim, the concept distinguishes nothing, and we do not need to seek for whom the bells toll. Perhaps a dividing line can start to be drawn by thinking of victims as only those whose behavior, as a result of the disaster experience, has become dysfunctional in some significant way in everyday interactions and relationships.

This, however, brings us to the second issue. There is some evidence, that people who have experienced a disaster occasion, may show some long lasting psychological effects, but where such effects have little or no overt behavioral consequences. The Disaster Research Center survey study of the population in the Xenia area hit by the tornado markedly showed this pattern. A 15 percent statistically random sample of the population was studied six months, and in a panel-like fashion, 18 months after the tornado impact. In terms of scale scores on psychological well being, subjective states reports, and what might loosely be termed internal psychological aspects, the impacted population showed signs they had been affected by the tornado experience. Their scores were higher than a non-disaster control group, the scores generally remained as high in the eighteenth month as they were in the sixth month, and those who had suffered the most (loss of home, etc.) had the highest scores. On the other hand, on almost all measures of a behavioral nature whether reported by the surveyed population, the various community mental health agencies, other community organizations, and also as reflected in a variety of statistics indicating personal and social problems, there was almost no indication of any negative behavior consequences as a result of the tornado experience. If these findings are valid—and caution ought to prevail since the data have never been statistically analyzed as they could be—they do suggest a difficulty in identifying a disaster victim. If a person who has experienced a disaster occasion shows no behavioral effects, especially of a dysfunctional nature, but also exhibits signs of
of psychological residues from the occasion, is it meaningful and useful to categorize such an individual as a victim? Our preference would be to choose identifying criteria which involve behavioral dysfunctionality. But the choice is related to our Question #4, which involves how one will conceptualize and identify "mental health problems" resulting from disasters? If victims are identified in certain ways, they will be seen as suffering certain effects; defined in other ways, we end up noting different or perhaps even the absence of post-disaster related mental health difficulties. This would suggest identifying victims independently of effects, but the other major choice available is to identify victims in terms of people exposed or subject to certain conditions—what in some ways we suppose could be termed "trauma potential." But we have already implied the difficulties of following that route. Furthermore, the issue goes back finally to how a disaster is conceptualized. The matter of what is a disaster and its characteristics, as we have said a number of times already, structures in many ways, how we will think of victims and the mental health effects of disasters.

The third issue that needs to be addressed is of a different order than the first two, but also involves difficult conceptual problems. Disaster research has made it clear that it is not too meaningful to think that in a disaster occasion, there is on one side, victims, and on the other side, helpers. Totally apart from any mental health question, this is not a very useful way of looking at most disaster phenomena (for a discussion which argues those impacted by disasters, the so-called victims, can be thought of as resources, and that the helping organizations can be thought of as the problem creators in disasters, see Quarantelli, 1982). With respect to the mental health area, it also is not simply a matter of victims and helpers. For example, a certain category of the helpers, the so-called first responders, primarily emergency organization personnel, while often not directly impacted in the disaster occasion, often find themselves in more stressful situations than direct victims, as they engage in search and rescue, handle the injured and the dead, fight the secondary threats (e.g., fires) resulting from the disaster impact, etc. As indicated earlier, there may be—the evidence is far from systematic or conclusive—more negative mental health consequences for such helpers in the disaster occasion than the directly impacted victims. The analytical problem, of course, is that any theoretical scheme or model or even conceptualization of disasters and effects which makes sense when applied to one of these gross categories is unlikely to be as relevant and valid for the other category (e.g., first responders are often not present on the scene at the height of the disaster impact, they frequently come from outside of the area of the direct victims, they usually operate as members of organizational teams, they sometimes have considerable job related experiences in earlier stress situations, etc.). This issue of how to deal with the helpers as victims (and the example we used did not consider other potential helper "victims" such as the much talked about "burned out" syndrome of relief and service workers in a disaster occasion) has to be consistently addressed in some way.

Our inclination with respect to all three issues raised, would be to stick as closely as possible to overt behavior and to use relatively gross categories. This would not only be consistent with our overall approach to disasters, but from a practical viewpoint, would involve "things" which could
be better identified and used by anyone trying to estimate mental health needs in a disaster than if the assessment required using vaguer phenomena and very specific categories. Nevertheless, the process would still necessitate a great number of judgement calls (as is true with respect to needs assessment in the delivery of disaster emergency medical services where presumably the victims are clearly identifiable, see Golec and Gurney, 1977).

What is Mental Health?

We were involved in the production of the threefold formulation of "mental health problems" (i.e., mental illness, mental health problems, problems in living, see Taylor, Ross, and Quarantelli, 1976), a version of which was presented as part of the working definitions given to the panel. However, we want to note, because it underlies why Question #4 was phrased as it was, a number of difficulties in the process of developing the formulation, and some serious flaws in the end product.

The threefold distinction was arrived at primarily through an inductive process, but upon which was superimposed a deductive distinction. A hodge podge of empirical data having to do with disturbed, inappropriate, and dysfunctional psychological states and behavioral activities as reported by mental health, medical, and other emergency personnel, were examined, and combined with some traditional notions prevailing in the mental health area. The end result was a threefold distinction of mixed origin. When all is said and done, the major distinction made between mental illness and mental health problems mostly is the traditional one between "psychoses" and "neuroses." "Problems in living" was a wastepaper basket category where all negatively defined psychological states and behavioral activities were placed which did not fit neatly into the two other categories. Even at the time the distinctions were being developed, the 6 and 18 month Xenia data were hinting at, as said earlier, a sharp difference between psychological symptoms and behavioral dysfunctionalities—the latter were frequently absent even if the former were present—but this was not taken into account in the final formulation. The group working on the problem was sharply divided and there was no consensus, but practical realities of expiring work deadlines and the need to produce something, necessitate an arbitrary decision on the formulation to be used (also a formulation about disaster related mental health problems was secondary to a more important research objective, that is, what and how services of a mental health nature were being delivered, a research task far more adequately and satisfactorily accomplished). Some candid accounts of experiences in a variety of research studies by others (see Hammond, 1967) suggest that the research and analytical processes in this particular instance may be the statistical mode as to what actually occurs, and is understandable in terms of practical realities, but nonetheless, it hardly meets the idealized version of how a scientific endeavor which should be carried out (accounts of the methodologies and analyses reported in almost all publications being sanitized versions of what actually transpired come much closer to the ideal).

Apart from the process of how it was produced, the end product, the formulation, is flawed in perhaps an even more important way. To talk of mental illness, mental health problems, or problems in living implies some sort of deviation from some state of mental health or more desirable condition. This was recognized in the group working on the formulation, but was laid aside on the
argument there was no consensus by specialists in the area, and that in fact some critics had mounted a reasonable argument there was no such phenomena as mental illness in the way it was usually visualized by the mainstream of the field (see, e.g., Szasz, 1961, 1970). However, in retrospect, it seems clear to us that no formulation of disaster related mental health problems can be very viable apart from some prior model or image of mental health or more desirable psychological state. This is important, not only to identify what can go "wrong" in a disaster, but to know what service efforts are needed to restore victims to their previous psychological state or even a better one. Unfortunately, the path of least resistance was taken, and the crucial question of what is mental health, was glossed over in our earlier effort.

The above remarks are not presented as an Augustinian account of past scientific indiscretions, but to indicate why we phrased Question #4 as: what is mental health? Unless this question is dealt with in some meaningful way, any formulation about mental health disaster effects, the dependent variable in any scientific model of the phenomena we are examining, is going to be on questionable grounds. Practical realities certainly will preclude full consideration of the question, but at least some explicit position ought to be taken. Given our past adventures on the topic, we are quite willing for others to take the lead on this matter. Can we really talk about the mental health effects of disasters, by which presumably is meant something negative or undesirable without having some positive or desirable image or conception against which to measure or judge these effects?

Finally, the consultant suggestion that we move in the direction of using the DSM III, the American Psychiatric Association Manual, would have the practical advantage of using and being consistent with a relatively standardized vocabulary employed by one segment of the mental health professional community. On the other hand, it would be a move toward the more medical treatment model of mental health. As noted in our findings on the study we did for NIMH on the delivery of mental health services in community disasters, there is a competing social service delivery model which appears to be more consistent (if certain assumptions are made) with what is needed and happens in the typical American disaster occasion (see Baisden and Quarantelli, 1981). There is also the question, which is both theoretical and practical, of the extent to which human and social service agencies and religious groups which usually provide many services of a "mental health" and related nature to disaster victims, would be willing to abandon their primarily social service model. This is important, if for no other reason, that any adequate post-disaster needs assessment survey is partly going to require the cooperation, assistance, and providing of information by such organizations. Put another way, should what are called "problems in living" be treated as part of the mental health effects of disasters? We would argue that how one answers this question is primarily based on the conception one has of, what is mental health?

Our comments have provided few clear cut answers to the original questions posed to the panel. In fact, we have added additional questions and difficulties to those initially presented. But as said at the beginning of this paper, we do not see how certain questions can be addressed, if other more basic questions are not answered in some way. Since in our view the answers
are not primarily matters of empirical determination, it is necessary, as it was phrased earlier, to indicate where "we are coming from." As undoubtedly can well be anticipated by now, we can only conclude by saying that to us nothing is more obvious.
SECOND PAPER
PART ONE

Introduction

In this second paper as in the first paper, the panel has been asked to do something which in our view begs answers to prior questions. The prime request was to develop criteria for defining a post-disaster community as "high," "medium," or "low disrupted" in relation to disruption of various services, e.g., medical, transportation, food, etc. How this can even be started to be addressed without some initial conceptualization of what is meant by a community and what can be assumed by way of pre-impact services, is not obvious to us. (We leave aside the question of what might be meant be "post-disaster"—any number of researchers for instance argue that Three Mile Island has still not moved into the post-impact stage, and also ignore at this point that service disruption is not a self-evident term given that on a normal, everyday basis some inner city areas have certain services at a level which some suburban areas would consider disrupted.)

The problem is compounded with respect to this matter because unlike the topic of disaster mental health effects, the area of community study is of long standing and the work produced has been voluminous. Just in the discipline of sociology alone, the area of community is a well recognized field of specialization with many researchers and a vast literature. If added to this is all of the work outside of sociology in as diverse disciplines as social work and political science, as anthropology and planning, there can be no assertion that here is a relatively unexplored topic.

Unfortunately, while much exists, there appears to be little agreement on conceptual matters, theoretical models, and what is or is not empirically known. This can be documented by picking at random almost any available college level text on the community, urban society, and closely related topics. Thus, in a recent book of readings on the sociology of community, the introductory page starts off as follows:

Over the past fifty years there have accumulated literally hundreds of community studies. They are, at one and the same time, some of the most appealing and infuriating products of modern sociology. They are appealing because they present in an easily accessible and readable way, descriptions and analyses of the very stuff of sociology, the social organization of human beings; and infuriating because they are so idiosyncratic and diverse as to steadfastly resist most attempts to synthesize their findings. Community studies, however, continue to be widely read, offering in particular an access to sociology for many new students of the subject and continue to provide an apparently inexhaustible pool of 'social facts' upon which theorists may draw in order to buttress their arguments. Yet out of community studies, there has never developed a theory of community, nor even a satisfactory definition of what community is. The concept of community has been the concern of sociologists for more than two hundred years, but even a satisfactory definition of it in sociological terms appears as remote as ever (Bell and Newby, 1972:xliii).
The issue, of course, is not the word "community," but the different references, and if anything, to which this or similar labels can be applied. To use another word, does not get away from the definitional and conceptual problem of what, and even if there is anything of a meaningful nature which can be captured under the label "community."

Another writer, Poplin, states:

> From its inception as a discipline, sociology has been plagued by inconsistency and ambiguity in some of its basic terminology. Indeed, some words that are used almost daily by the sociologist take on so many shades of meaning that it is difficult to endow them with scientific precision. The word community falls into this category. As an element in the sociological vocabulary, this term has been used in so many ways that is has been described as an omnibus word (1979:3).

He then goes on to remark that:

> Sociologists will, undoubtedly, continue to use community as a catchall term for a long time to come. However, this practice can only cause confusion. Furthermore, in many cases the use of the term community indicates a lack of conceptual clarity (1979:4).

This latter point is confirmed in a very famous and now classical article of Hillery of nearly three decades ago—which despite its age few would challenge today (see Sutton and Munson, 1976; Willis, 1977)—where he examined 94 different definitions of the term and found not only very wide variations in what seemed to be the referent but also that "at least two authors could always be found who have presented conflicting definitions" (1955:111). "When all of the definitions are viewed, beyond the concept that people are involved in community, there is no complete agreement as to the nature of community" (1955:119). More recent discussions voice the same ideas.

Given the lack of clarity and agreement on the term, it is not surprising that there is little consistency in the literature on the structure and functioning of communities. Yet some assumed image of structure and function would appear to be necessary before any discussion (whether by way of example or literature citing) can be attempted about disruptions of community services. Put another way, what could we be talking about if we say there were disruptions of community services in a disaster occasion which involved a:

- resort area
- bedroom suburb
- rural shopping hamlet
- company town
- retirement village
- ideological or religious commune
- corporation owned farm holding site
- unincorporated urban sprawl
- fishing port
- industrial zone or park
or the central business district or inner city of a metropolis?

This listing to us points to at least two of the major factors which complicate any conceptualization of community and any model of community structure and function. One, of course, is that the legal boundaries which are drawn around villages, towns, and cities in American society are never co-terminus with the way people are actually socially organized. As we have written elsewhere:

...an operative community cannot be totally equated with the formal boundaries of standard governmental entities, be they a county, a city, a township, or some other incorporated legal entity. The very concept of community tries to indicate that what goes on within the formal boundaries of legal entities often does not adequately capture the ways in which people and groups are often collectively organized to handle their problems. Thus, for example, community preparations for handling chemically-based disasters cannot be understood by looking just at the situation in the largest formal governmental entity in the area, say a city. Other governmental entities in and around that city, which may be other cities, towns, villages, or incorporated localities, are usually part of the community in that area, and their preparedness status has to be understood as well, for an accurate comprehension of the situation to be reached (Quarantelli and Tierney, 1981:343).

This is hardly an original idea. As Warren points out "it was early recognized that the political boundaries of a village or city did not necessarily coincide with the area of shared life and shared institutions and behavior which constituted the local community. Indeed, one of the most important discoveries of students of the community early in this century was the close interrelatedness of the village or city center with the surrounding countryside which constituted its trade area." As he very aptly puts it, "Here was a social entity which appeared on no map, and yet its reality could not be denied" (1972:6). Thus, the legal conception of "community" in the sense of an incorporated village, town, city, county, or even state, suffers from the same kinds of problems we noted earlier in accepting the legal definition of "disaster" for purposes of research or service delivery.

The other complicating factor alluded to above is that in the modern world especially, there can be sharp differences as to the geographic localities where different clusters of important and organized social activities are carried out. To the well recognized differences in the separate places where most people work and where they live, there have been increasingly added other differences as to the localities where people shop, where they play and recreate, and in these days of accelerated busing, where even children are educated. In American society it is becoming increasingly rare for work, residence, shopping, recreation, education, etc. to be undertaken in the same geographic locale. This observation has led many to challenge any conception of community which sees it as involving some kind of territorial unit (Poplin, 1979:6). In fact, other scholars have even taken the position that there has been
"A gradual realization on the part of students of the community that the traditional way of thinking about communities is no longer adequate, if it ever was, to describe American community life" (Warren, 1972:2; see also Christenson, 1980).

One interesting outcome of all this is that some have argued that the concept of community should be abandoned (e.g., see Bell and Newby, 1972:xlii) and that all the traditional ways of talking about the phenomena are outdated given the multiple ways people socially organize themselves and which have either different spatial loci or no territorial base at all. There is a parallel here to the argument mentioned in our first paper where some scholars have suggested abandoning the concept of disaster while others have said that it is outdated and does not capture the newer terrors of the modern world. While both suggestions may be premature, at the very least, they do indicate to us that it is crucial to deal with conceptual problems, and in the case here, if we want to talk about community service disruptions, it is first necessary to make explicit the conception of community being used, which in turn will imply some sort of model about community structure and functioning.

Our panel is not the place to attempt to settle the fundamental issues involved, nor even to debate them. However, unless there is some minimum consensus, not only will there be talking past one another, but there will be appeals to empirical observations, data, or literature which will be meaningful to some but irrelevant to others, given probably radically different starting points and assumptions. Practical realities will dictate taking some position or other, and understandably so. What is necessary for political and bureaucratic considerations is not always the most appropriate way for scholarly and scientific purposes, and we have no problem with that. However, as in the case of the first paper, we do think it is important to understand where "one is coming from," in this particular case, with respect to how one visualizes a community and its operations. Different definitions of community and different conceptions of community processes can only lead to non-empirically resolvable differences on disruptions of community services.

In the rest of the first part of this paper we will go back again but very briefly to the question of what is a community. We will then note two major different possible conceptions of community structure and functioning. We shall then observe what in our perspective are balancing or neutralizing factors in disaster occasions which should be taken into account in any analysis or description. At various points we will weave in our comments on various specific questions addressed to the panel.

What Is a Community?

As noted in the first paper, there might be some practical justification for using the legal definition of disaster. However, there are no obvious reasons why the legal definition of community ought to be used. From the literature, as already noted, a variety of radically different definitions and conceptualizations of community could be pulled out. In general terms these would be variants of looking at the community as a territorial unit and/or as a unit of social organization (i.e., as a social group and/or as a network of interactions), and/or as a psychocultural unit (Sanders, 1975; Poplin, 1979:4–18;
Scout, 1981). For the reasons indicated as well as others, this might not be the best path to follow for our purposes.

A possible approach would be to conceptualize a community in time of the service or catchment area of the major mental health agency in the disaster affected area. Many such service areas cut across other legal, formal political boundaries, and are operationally meaningful to personnel who would have to conduct needs assessment surveys. This route is far from perfect and there is a problem when the mental health effects of a disaster occasion cuts across different catchment areas as it did in the Xenia tornado. An additional problem is that, for example, the first responders or the organized helpers which we mentioned in our first paper as possible victims and subject to mental health effects, may come from outside the impacted service or catchment area, especially in very large disasters. At one level, this approach would seem to be very realistic because it would appear to involve the probable post-disaster service delivery system, but there is some evidence that in major disasters there typically is an emergent delivery system which only partly overlaps with the established delivery system (see Taylor, Ross, and Quarantelli, 1976; also Baisden and Quarantelli, 1981). Put another way, the idea of defining the community in terms of the service or catchment area of the major mental health agency in the affected area, has some possibilities, but they are not all totally positive. It is also not clear to us how well that would allow identification of the everyday community structure and functions.

Conceptions of Community Structure and Functioning

Again the literature presents a variety of models of everyday community structure and functioning. Out of this variety we will just note two of them. One is the model, most explicitly used by Warren (1972) but also employed by others. He defines a community as "the combination of social units and systems which perform the major social functions having locality reference" (1972:9). This is a way of stating that a community can be thought of as the social system or the organization of social activities which "afford people daily local access to those broad areas of activity which are necessary in day-to-day living" (1972:9). This kind of formulation leads to a focus on functions, especially these five:

1. Production-distribution-consumption
2. Socialization
3. Social control
4. Social participation
5. Mutual support

Not only is this a widely accepted conceptualization in the community area, but this formulation has been specifically employed in disaster studies. Dynes used this in his theoretical discussion of organized behavior in disasters (1975:85-90) and the formulation was concretely applied a long time ago in the Disaster Research Center monograph on Community Functions Under Disaster Stress (Wenger and Parr, 1969, see especially chapter 2). The possible use of this conception of community structure and functions in a disaster context is therefore not an issue.
However, while this functional approach is useful for research purposes, it may not be the best for operational personnel attempting to carry out a needs assessment survey. It might be more useful for the latter purpose to focus on structure rather than function. Structure, or in the particular case of community analysis, the social system can be thought of as the totality of the different institutions or social groups which carry out different functions. Such social entities are more easily identifiable than functions. Again, while there is no total consensus on the matter as can be documented by looking at texts dealing with the community, there are some institutions which are traditionally listed as important (see Poplin, 1979:174). These would include the:

- family institution
- educational institution
- economic institution
- political institution
- religious institution

Less traditionally talked about would be the:

- health institutions
- welfare institutions
- mass communication institutions
- recreational institutions

and others which might be deemed relevant to community functioning for mental health purposes. In some respects, we are saying it might be possible to make an assessment of which institutions were affected and in what ways by a disaster occasion.

But probably such an approach would be more meaningful the greater the population affect was central rather than peripheral in the community. If this approach had been used in the Indianapolis Coliseum explosion it would have been a poor indicator since the social institutions of the community were only marginally affected by a very focused and localized disaster which involved many victims peripheral to the major community where the explosion occurred. It probably would not have been a very good measure for the Beverly Hills night club fire, although we are not fully certain of the residential location of the victims. On the other hand, the approach indicated would appear to have worked well in such disaster occasions as the Wilkes-Barre and the Teton Dam floods. In fact, in noting this contrast, a question is raised for us whether disaster occasions involving transients or peripheral victim populations should even be approached as community disasters—some disaster occasions really have little direct impact on the communities in which they physically occur (e.g., many plane crash types of disaster occasions where all direct victims are from outside the impacted locality, and where possibly only some first responders or organized helpers could be thought of as indirect victims, as appeared to be the case in the instance of the crash in San Diego a few years ago). Here again, of course, we are forced back to a consideration of what is a disaster.
Thus, in respect to the question posed to the panel about defining a disaster in terms of high, medium, or low disruptive community impact, the issue is far more complicated than might appear at first glance. There is some evidence, for example, that plane crash survivors and first responders to such occasions, would rank high in terms of vulnerability to mental health effects. Yet in terms of community service disruption, by almost any criteria which might be used, the typical such disaster occasion would almost certainly have to be ranked low in terms of disruptive impact on the community. The Big Thompson flash flood, although not as clear a case, also probably would rank relatively high for possible mental health effects on victims, but relatively low for community disruption. With a little imagination, it might be possible to speculate that even a reverse occasion might occur, that is, high community disruption and low mental health effects. Although mostly looked at for other reasons, a number of blizzard disaster occasions studied by DRC, did appear to show such a pattern. A Buffalo, New York blizzard and a massive snowstorm/cold spell in certain Ohio cities which were specifically explored for mental health effects surfaced major disruption of community services and very low, at least immediate, mental health effects. In fact, along some lines, some of these occasions generated more of a carnival spirit than anything else, even though they were disaster occasions by almost all of the definitions of disasters which could be used, even the one of an unbalanced demand-capability ratio, as we discussed in our first paper.

One aspect of disasters suggested not only by the blizzard disasters just mentioned, but by many studies, is that disasters generate balancing or neutralizing factors which affect the total context of the occasion. In our first paper, we noted the unfortunate tendency to think of disasters primarily in loss or damage terms. Similarly, it is our view that to think of disasters as purely disruptive of community functioning is a one-sided and misleading picture. (We leave aside for the moment, for it will be discussed later, the question addressed to the panel about partial services and substitutions for normal services, and how these could moderate the impact of disruption of normal services.)

Dynes in the last chapter of his book on organized behavior in disasters, discusses the paradoxical changes in community structure in disaster. As he notes:

One starting point for an overall view is to deal with a paradox, glimpses of which have been seen previously. It is paradoxical that the effects of disaster impact on a community are both disorganizing and integrative. The more popular accounts, especially those of the mass media, emphasize the disorganizing effects. Many of the illustrations used here also give support to this consequence. A different view clearly shows the integrative consequences, as we emphasized [earlier] when the notions of the development of an emergency consensus and the emergence of norms encouraging altruistic behavior were introduced. Such a paradox is resolved only by understanding why both consequences are true (1975:294).

He then proceeds, using ideas from the early disaster field studies of the
1950's (such as the NORC studies and some of the National Academy of Sciences studies), to show that "both consequences, the disorganizing and the integrative, are not inconsistent if they are seen as dual aspects of the process of adaptation a community experiences when coping with disaster" (1976:204). In its daily existence a community is not structured to cope with disasters, even if it has previous experience and prior planning. "Consequently, a community has to be disorganized before it can develop a new structure capable of coping with the new and often overwhelming demands made upon it" (1976:204). As a consequence of the creation of a new structure capable of coping with the crisis occasion, the community undergoes a new integration. A similar idea was earlier advanced about organizations by Thompson and Hawkes (1962), who note old pre-impact structures are replaced by new structures that are more capable of coping with the disaster occasion.

If one accepts this view of how communities respond to disasters, there are certain important implications. Among other things, it suggests community disruptions are always mediated by the new social aspects which emerge in the course of moving from the so-called disorganized to the integrative phase. Community studies of disasters going back to the NORC studies of the 1950's have pointed out such aspects as the following. There is the development of an emergency consensus, that is, there is the emergence of a priority system because certain values are more critical to the survival of the community. The problematic state of resources necessitates making a choice in allocation of time and energy of the community to the more salient values. In addition, certain norms become more crucial—behavior which is directly related to higher priority values is considered inappropriate.

One of the core values which gets very high priority, and which apparently is almost universal and not specific to American society, is care for victims. Dynes summarizes well what study after study has shown, and thus will be quoted extensively.

Behavior following impact suggests that the value which receives the highest priority centers on the care for victims. Providing first aid and transporting the injured to sources of medical attention are given the most immediate attention. This is done in the context of immediate rescue activities, such as extricating trapped individuals or evacuating individuals from dangerous areas. After obvious victims are given medical attention or rescued, the impacted area is searched for unknown victims.

Next, attention is given to procuring and distributing basic necessities for those in the impact area: shelters are often provided on a temporary basis by opening large public buildings, such as schools, auditoriums, churches, etc.; food is provided by local voluntary agencies; clothing supplies are also often provided. Special less crucial medical attention is often given, and particular attention is frequently shown to the needs of babies and small children. Basic necessities are usually provided at gratis to those in need (1976:86-87).
The above activities seem to reflect the core value of care for victims in the emergency consensus. Next sanctioned are other community activities which support core values secondarily; these are functions which have a direct but secondary bearing on activities immediately stressing the core value of care of victims. Such sanctioned activities include:

Restoration and Maintenance of Essential Community Services. If the impact has disrupted utilities, transportation arteries, and communication facilities, the restoration of these to some functioning level is given high priority. Community-oriented facilities most directly related to the preservation of life are given the most immediate attention. Restoration of electric or telephone facilities to hospitals, fire, and police departments or command centers takes precedence over private concerns.

In order to restore and to facilitate care for the injured, all relevant community resources, both public and private, are given attention. Often private property is used in the process of restoration to such an extent that, on one hand, individual use of private property is considered inappropriate if such property is needed by the larger community and, on the other hand, almost regardless of the wishes of the owner, private property is seen as a possible resource to be used for the total community (1976:87).

Another major activity undertaken in disaster occasions is:

Maintenance of Public Order. Public order is considered necessary by community officials to accomplish the tasks involved in the preservation of life and the immediate restoration of essential services. Community personnel and facilities are committed to the tasks which facilitate the preservation of life and the restoration of services—e.g., guarding property, patrolling danger areas, and directing traffic near the impact area.

The focus of activity seems to be not only the protection of property but also the attempts to see that community resources, both public and private, are used for common community ends, not for individual ones. For example, in most disaster studies, there exists a common paradox that community officials, particularly those charged with problems of the public order, such as the police, become concerned with the prevention of looting while careful studies in disaster situations indicate that looting is infrequent, if not nonexistent, in disaster situations. What seems to happen is that the community redefines almost all property as "communal," in the sense that the community has first claim on the use of any resource. Looting is considered the appropriation of communal property for private use and, hence, as extremely threatening to the community. Even those individuals who sift through the wreckage to salvage their own property may be accused of looting (1976:87-88).

Finally, another major set of activities revolves around the sustaining of public morale. As Dynes notes:
The mass media play a leading part in describing and interpreting the disaster event. Since many radio stations have auxiliary power sources and since transistor radios are widely diffused throughout many populations, radio stations often provide a continual stream of information concerning the extent of the disaster, on-going countermeasures, and often they enumerate which activities the public should avoid or engage in during this phase. Community agencies release information about their activities to the mass media. Political officials often appear on radio or TV with a description of what has happened and instructions as to what to expect in the future. A major theme in these appearances is that: first, "we" acted heroically during the disaster, and second, "we" will rebuild and go on to a better future.

A major activity supporting public morale during the early stages of a disaster is reuniting families separated by the disaster, and providing information which reassures family members of the safety of other relatives. This activity often extends outside the immediate community. Inquiries come into the community from distant communities, and local people attempt to send messages to reassure relatives and friends of their safety. The task of information clearance is one which usually has not been institutionalized within a community and often several organizations assume this task; as a result, conflict and confusion ensue. Mass media often provide such information initially until it becomes the definite responsibility of a specific organization.

In general, tasks of maintaining public morale fall to the mass media. Radio (in particular), television, and newspapers provide channels for information and specific directions to members of the disaster-stricken community. In addition to information activities, there are constant references to the community in a collective sense; collective pronouns such as "we," "us," and "our" are used in mass media discourse in order to reassure community members, to provide a sense of unity, and to suggest a sense of future purpose for the community as a whole (1976:88).

There are also many changes in the five locality-relevant functions of a community mentioned earlier (as drawn from Warren, 1972 and applied by Wenger and Parr, 1969). In a major disaster, these are some of the things which happen:

a. Production-Distribution-Consumption
Almost always there are drastic alterations with production units being closed down, a reduction in the normal volume of distribution and marketing because much food, clothing, and other supplies are distributed at no cost. Other goods, materials, and pieces of equipment are either requisitioned without permission or authority, or volunteered.
b. Socialization
Those socialization activities associated with formal groups such as schools are reduced if not stopped completely, and their resources are used to shelter and feed disaster victims and helpers.

c. Social Control
Some formal norms are set aside such as violations of parking regulations, but other violations such as appropriation of private property for private use, are severely condemned. Court cases are postponed. Actions of bureaucrats which would normally require assent of elected officials are approved after the fact. Elected political officials often both provide reassurance and interpretation to community members and assume integrative roles which may have little to do with their formal job duties and responsibilities.

d. Social Participation
Many voluntary associations as groups assume disaster-relevant activities but most clubs and social associations suspend their normal operations, and many major cultural events are cancelled.

e. Mutual Support
There is a tremendous increase in interaction, the development of widely shared disaster related jokes and humor (which often appears to be of a "gallows humor" type to outsiders), and the appearance of a "we" vocabulary which subsumes all those who have experienced the emergency period of the occasion.

Notable with respect to all these activities which are either initiated, accelerated, delayed, or terminated, is that they very seldom involve conflict, disagreement, dispute, and are clearly matters of high community consensus (they may become points of controversy after the emergency is over, but that itself is a sign that the community situation is returning to a normal state). It is fairly clear that almost all community functions can be visualized in "service" terms, whether in a broad sense as religious services or in a narrower sense as check cashing services. Whether the conception of community services is equated with functional activities in a community, or thought of in some other way, there has to be some notion advanced of "services," so there can be some analysis of what the panel was asked to do, that is discuss disruptions of such services.

In addition to the emergency consensus, there is the development of norms which encourage altruistic behavior at least in American society (the cross-societal evidence on this is less clear). Barton (1970) advances a number of very specific hypotheses which attempt to characterize the nature of the altruistic behavior which emerges and the disaster relevant factors which might account for why disasters evoke a greater degree of altruism towards the unfortunate and the suffering, than do other occasions. In his analysis, he suggests that the empirical evidence from early disaster studies (mostly pre 1965) indicate that it is important to take into account the number of victims, the beliefs and ideologies, and the communications which occur about victims, the way in which sufferers are used as a reference or identification group,
the feelings especially of relative deprivation among those affected, and the 
opportunities which exist for helping victims. An effort is made to show how 
these factors influence the proportion of community members who feel an 
obligation to help, why some perceive a strong norm to "help victims," and 
what accounts for those who actually provide some assistance to community 
members who are victims. (Barton generally assumes that a substantial part 
of the community does not become a part of the victim population; the situa-
tion is far more complicated when the proportion of victims is extremely high 
in a given community as it was in the Xenia tornado and the Wilkes-Barre 
flood, where some DRC work suggests that for most purposes, all pre-impact 
community residents could be considered as becoming victims as a result of the 
disasters which happened.)

We have only very briefly summarized some of the major research findings with 
respect to the development of an emergency consensus, and the emergence of 
altruistic norms, and have not even alluded to other expectable post-impact 
social phenomena such as the expansion of the citizenship role (see, e.g., 
Dynes, 1976:96). However, we think we have presented enough for our purpose 
here, which is to indicate some implications for any serious consideration of 
community disruption as a result of a disaster. The first point we may 
observe, and has already been mentioned, is that many of the things noted, 
clearly balance off, neutralize, or otherwise soften the impacts of disaster 
occasions. Two communities, for example, may suffer the same physical damage, 
have roughly equal number and kinds of casualties, and have initially the same 
kind of interruptions or cessations of normal community routines, but 
actually because of rather different emergent patterns of the kind discussed, 
have markedly different disaster occasions, with all that implies for mental 
health effects. Researchers with much field experience in a wide variety of 
disasters, whether correctly or not, sometimes think they can "sense" what are 
essentially qualitative differences; thus, Hurricane Betsy in New Orleans 
"seemed" to us a much worse disaster occasion than the Alaskan earthquake at 
comparable chronological times in the emergency period.

A second point we would note, and related to what was just said, is that the 
overall context would appear to be more important than any specific dimension. 
The panel was asked, as an example, to consider how disruptive it is to the 
community if transportation services are totally inoperative for two days as 
compared to 20 days? While we think we understand the purpose of asking such 
a question, we have strong doubts that such a reductionistic and atomistic 
approach is the best way to proceed given what actually happens in disaster 
occasions. Although not a disaster in our conception of disasters, we can 
note that street car service was restored in some parts of Hiroshima within 
48 hours after the atom bomb; if we remember correctly, street car ser-
vice was not restored in most of New Orleans until at least 72 hours after 
Hurricane Betsy. Perhaps someone can visualize some sort of calculus which 
could add up different kinds of disrupted services, but we have no idea of 
how one would proceed in such a direction. Our feeling is that the total 
context is more important than specific dimensions, and that an additive 
approach might make us blind to the forest because of all the trees. It might 
be possible, in a phrase addressed to the panel to define "in terms of high, 
medium, or low disruptive impact" for "community as a whole," even though 
we have no suggestion to make, but we do not see doing it in terms of specific 
services.
Last year, DRC, on behalf of FEMA looked at a situation in New Orleans when all the phone system in the central business district (including the headquarters of many of the emergency organizations were located) was knocked out and minor flooding was occurring in most areas of the city preventing the movement of traffic. A key part of the phone system was not operating, and the transporation system was very severely disrupted. Sometimes oversimplified, we can say the study focused only on emergency organizational activities and problems, but found, as other studies have found, that demands for all emergency services dropped considerably below normal, that the emergency organizations shifted to foot messengers, and that basically there was not even much of an emergency much less a potential disaster occasion. The total community context had to be understood to see why major disruptions of two key services had almost no dysfunctional consequences for the community emergency organizations.

A third implication of the earlier description of typical community responses in disasters, has to with the request to the panel for "a complete list of services which, if disrupted by disaster, would be likely to lead to aggravate mental health problems" and a request for "an examination of partial services and substitutions for normal services and how these moderate the impact of disruption of normal services." Cited as an example of important community services which might be disrupted by disaster were the communication media. Let us address these several matters. First, as we tried to hint at in our earlier highly summarized presentation of emergent patterns in community disasters, there are a vast array of services which could be disrupted and could, in principle, lead to or aggravate mental health problems. To take at face value the notion of a "complete list," it seems obvious to us, would require mentioning every community service which exists, ranging from A to Z, from the airport to the zoo. (Some disaster studies have picked up anecdotal stories about some animal lovers being very concerned about what might have happened to the zoo animals at the time of a disaster.)

Second, as we also tried to suggest by our description of emergent community patterns, it is possible to indicate moderating factors, but probably not in the specific way which seems to be implied in the statement presented to the panel. For example, a well documented happening especially in the post-impact period of disasters is, as we said, that many voluntary associations assume disaster-relevant activities. Many such activities certainly could be seen as relevant to mental health consequences. But, which activities are undertaken by which associations, would appear to vary considerably from one disaster to another, from one community to another. It is not clear to us what specific guidance could be given on this point which would improve needs assessment surveys.

Finally, the example given of a possible disrupted community service was the communication media. The example used suggests to us the very complicated problems and complex matters which have to be dealt with in trying to make any assessment of disruption. A few months ago DRC did an intensive study of all the radio stations, television stations, and two major newspapers in the Houston area to see how they operated and what difficulties they had during Hurricane Alicia. The substantive results of our study are not important here but our research does suggest some of the issues involved in identifying and assessing disruptions. Do all the media outlets have to stop operating to
have disruption? In the Houston area, some outlets did not operate, but most did. But even when there was cessation of operation, as by the three radio and one television station in Galveston, the residents in Galveston still had access to the more than two dozen operating organizations in the Houston metropolitan area. Was there a disruption because familiar outlets could not be used by particular segments of the population? For how long must the disruption last to be disruptive? One of the two Houston papers failed to provide home delivery service the day after the hurricane. Is it disruptive if a radio station drastically changes its format for the duration of the emergency? What if only stations normally broadcasting to ethnic groups and/or non-English speaking audiences are the only ones not operating—how is disruption to be thought about in such situations? These and other questions which could be raised, suggest the need to specify the meaning of disruption. The same questions, in only slightly different form, could be asked of the other "important community services" in the list presented to the panel, such as medical facilities, or others not listed, such as recreational or banking facilities (in the Wilkes-Barre flood almost all the financial institutions had serious difficulties in resuming operations, and certain specific services were seriously curtailed, which at least according to bank officials we interviewed, appeared to have generated some concerns among the public, especially the elderly). As said much earlier, disruption is not a self evident term particularly when applied to concrete situations in actual disaster occasions.

We have indicated that in our view it is necessary to clarify what might be meant by community, to identify what image one might have about normal everyday community structure and function, to take into account in some way the balancing or neutralizing emergent community patterns, to place in the larger community context whatever is being looked at, and to clarify what might be meant by community service disruptions. Even if all this is accomplished, then there is the matter of relating whatever positions are taken, to possible mental health effects. Some of this appears to us to be highly problematical. For instance, we are not certain what kind of empirical case from disaster studies could be made that the disruption of the communication media would have negative mental health effects. We might make a logical case, perhaps even a theoretical case, and one could even describe as in the quotation from Dynes earlier how mass communication might be involved in the sustaining of public morale, but we do not know how a research case could be made. We are not aware what, if any, research base could be used (see Committee on Disasters and the Mass Media, 1980, which documents the very poor research base in this area). We are even less certain how anyone attempting a needs assessment survey would proceed. This, of course, is merely a specific example of the more general problem. Also, as we have indicated already, this matter of a linkage to mental health effects is secondary, until other issues and questions we have raised in the first part of this second paper, are addressed in some way.
Disasters may disrupt social support systems in the same way they disrupt community services. We have in the first part of this paper discussed community services, and almost all of the questions and issues of a definitional and conceptual nature and about the theoretical models assumed, can be raised about support systems (even granting that the latter will involve far more informal components than the former). Therefore, instead of repeating much we have already said, often more than once, we will in the rest of this paper focus primarily on the topic of relocation and temporary housing. However, we will set that discussion in the larger context of mass evacuation, since sheltering and housing—labels we prefer for reasons indicated later—occur only in that larger context.

We shall first briefly define and talk about what is involved in mass evacuation, since such behavior sets the stage for sheltering and housing. However, most of our discussion will be about sheltering and housing behavior, including the presentation of four different types of disaster related sheltering and housing activities. As in many of the topics we have addressed in the two papers, we do not believe it is possible to talk about the consequences of "something," unless there is some clarity and understanding about that "something." As we see it, if we wish to indicate how social support systems might be affected by disaster shelter and housing activities, it is necessary to have some image of those activities. We present the view we have, and try to suggest some of the possible links between disaster evacuation, disaster sheltering and housing, social support systems, and mental health effects.

Some of the ideas in the following discussion are drawn from a systematic examination made in 1980 of all English language sources (about 150 publications) which treated evacuation as a major topic, and which was supplemented by a reanalysis of data obtained in field studies which looked at major evacuations in a variety of different disasters (see Quarantelli, 1980). Other ideas in the discussion are taken from a 1982 summary of the research literature on sheltering and housing, and a reanalysis of data from case studies of American disasters which necessitated victim sheltering and housing on a large scale (see Quarantelli, 1982).

Evacuation Behavior

The term mass evacuation is used in the literature to refer to a wide variety of phenomena. At one extreme, there is the short-in-space and brief-in-time exit from a building, as in the "evacuation" of a high-rise hotel as the result of a fire. At the other extreme, the term evacuation is used to refer to very long term, if not permanent, relocation of segments of a population to a distant location, as in the "evacuation" of the residents from the island of Tristan da Cunha in the South Atlantic to England because of a volcanic eruption (Munch, 1971).

For most research purposes, a useful conceptualization of evacuation is that it is the mass physical movement of people, of a temporary nature, that collectively emerges in coping with community threats, damages, or disruptions. This formulation emphasizes three features: 1) a sizable number of people
participate; 2) the movement is "roundtrip" (Aguirre, 1980), from an area to another location and back to the original area; and 3) the behavior is complex rather than simple, interactive rather than individualistic, and develops along multiple lines rather than a single path. All three features have potential for mental health effects and disruption of social support systems. Excluded as evacuation in this conception are permanent or semi-permanent relocations, as well as very localized flights. Our approach leaves open as an empirical question in each instance whether evacuation behavior is functional or dysfunctional, at any level, contrary to the implicit assumption in most of the literature that such behavior is basically functional.

This last matter is related to another implicit assumption widespread in the evacuation literature. It is to think of withdrawal behavior in terms of a stimulus-response (S-R) model. The imagery is a stimulus such as a disaster impact or a warning, with the possible response being the flight behavior. In the S-R model, evacuation is thought of as being reactive phenomena, a response to something else. It is easy with this imagery, therefore, to think of evacuation as following a linear and singular path or sequence. That is, a disaster occasion is seen as leading to warning or impact which results in evacuation flight.

Such a simple S-R imagery of evacuation which is implicit in most of the research literature can be questioned. In many ways, evacuation is a proactive rather than reactive phenomena; there are often multiple and disjunctive paths in the unfolding of the behavior. For example, some evacuees may leave as soon as there is a sign of danger or right after impact; other evacuees may delay as they assess the situation and seek additional information; others will wait and hunt for household members in the area; some evacuees go directly to one place of refuge while others make multiple stops; those who left early might be returning when others are just starting out; some potential evacuees never leave, etc. These differential activities are all illustrated in some of the data from the Three Mile Island nuclear plant incident (see Brunn, Johnson, and Zeigler, 1979; Flynn, 1979; Smith, 1979). Some studies of hurricane warnings which have even attempted to quantify the differential actions have concluded that: "the process of response to warnings is not a simple stimulus-response process. Rather the process involves a rather complex information-processing and decision-making system that is influenced by a number of factors that have little to do with the threatening event" (Carter, 1980:10).

We suggest that proactive behavior is even more likely in evacuation than in warning, and that warning is only one element, and not necessarily always the most important, in evacuation behavior. In turn, evacuation behavior is the context for sheltering and housing on the part of disaster victims. As such, there has to be some conception of evacuation behavior before disaster sheltering and housing can be discussed. As we have written elsewhere, insofar as the evacuation process is concerned, there are four behavioral sets associated with warning, withdrawal movement, shelter, and return (Quarantelli, 1980:31). Put another way, the model suggests that the process involves interrelated activities; first a warning stage, which may lead to withdrawal movement, which may lead to shelter, which usually involves a return by evacuees to the place of departure. Because they are interrelated, one behavioral pattern cannot be understood apart from the other patterns. For
example, the withdrawal movement can be rather heterogeneous. The bulk of those who leave at the height of the emergency in the typical American disaster go to friends and relatives, but some seek private commercial accommodations such as hotels and motels, while a small minority end up in public shelters usually organized by the Red Cross. There is some evidence there are strong social class factors associated with this differentiated shelter pattern. Middle class families, if at all possible, move in with kin and friends. The more affluent households find lodgings in second homes or hotels and motels, with those who primarily come from the bottom of the socio-economic ladder, usually making the greatest use of mass shelters. However, social class differences influence from the start what exposure there is to warnings, how they will be interpreted, etc. Thus, to look only at the shelter stage without taking into account what it has come out of, is to miss some very important matters for understanding the phenomena.

If there is one proposition in the evacuation literature which is empirically very well grounded and reiterated by almost any student of the problem, it is that the household family acts as a unit at times of mass crises. The vast majority of the literature either explicitly or implicitly indicates that instead of responding as separate individuals, family members act as a collective unit at times of evacuation. Household members will try to respond to warnings together, and to find shelter together. To the extent that the family household unit is a social support unit, the typical behavior by evacuees maintains a supportive social environment.

On the other hand, there can be atypical disaster occasions where significant members of households will not evacuate as units. Three Mile Island, where roughly a third of the evacuating families were incomplete (e.g., Brunn et al, 1979; Flynn and Chalmers, 1979), and Anchorage, Alaska, where a similar pattern prevailed following the earthquake (Kunreuther and Fiore, 1966), are two examples of this type of behavior. Conspicuous by its relative absence in the literature is any great research attention to the behavior of solo households, non-related household groupings, transients such as tourists or business travelers, and non-mainstream social groupings such as migrant laborers in an area. The evacuation literature stresses the family unit, and one of its major contributions may be its insistence that it is the collective unit, the family, rather than individuals which should be studied and understood. However, this has left outside the evacuation research focus, the ever increasing proportion of Americans who are not members of family household units, which in some metropolitan communities may be a substantial proportion of the total population (Baisden and Quarantelli, 1981). This category of possible victims, along with not formally recognized social couplings (e.g., cohabitating couples, whether of heterosexual or homosexual persuasion), may have lesser supportive social environments to start with, which might be weakened even further if evacuation of such units occurred. The empirical understanding of these matters insofar as disaster occasions are concerned is rather poor, but if the matter of social support is important, more attention ought to be paid to real social groupings rather than artificial categorical classifications (e.g., by arbitrary age distinctions as when we talk of children or the elderly; thus, certain ethnic groups integrate and link their aged members in an extended family network that is tremendously socially supportive at disaster times, some indications of which are hinted at in some of our data from the Wilkes-Barre flood).
Finally, before turning to shelter behavior, it is necessary to observe that a number of researchers think that withdrawal behavior should not be visualized as totally homogeneous phenomena. Thus, one of the more prominent analysts of evacuation behavior suggests that there are at least four different types of evacuation; namely, preventive, protective, rescue, and reconstructive (Perry, 1978). Cross classifying duration of withdrawal with time of disaster impact, he arrives at the following table:

<table>
<thead>
<tr>
<th>Withdrawal Relative to Impact</th>
<th>Pre-Impact</th>
<th>Post-Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Withdrawal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short term</td>
<td>PREVENTIVE</td>
<td>RESCUE</td>
</tr>
<tr>
<td>Long term</td>
<td>PROTECTIVE</td>
<td>RECONSTRUCTIVE</td>
</tr>
</tbody>
</table>

A preventive evacuation is employed to minimize loss of life in response to hazards that can be anticipated and that afford adequate warning time such as river floods. Protective evacuation is pre-impact withdrawal for a long period of time such as might be undertaken in the case of earthquake prediction. Rescue evacuation occurs post-impact, and is focused on the removal of injured and trapped victims, and is frequently treated as search and rescue in the literature. Reconstructive evacuation is withdrawal for an extended time period to facilitate the renovation of an area largely uninhabitable because of physical damage such as in the recent Italian earthquakes or because of toxic hazards. This formulation too, while easy enough to illustrate from field research observations, has not yet been systematically used in a variety of comparative studies to see whether it truly captures in a significant way the full range of withdrawal behaviors.

Researchers have implied or suggested other possible typologies. For example, it might be feasible to distinguish between early leavers, later leavers, deliberate stayers, and those never involved in the emergency—a model drawn from diffusion studies. Still another formulation suggests a typology of evacuation derived from the collective behavior area. It argues that evacuating collectivities can be differentiated on the basis of new and old social relationships, with "one implication of thinking about evacuations in this manner is that is underscores the heterogeneity of evacuating collectivities potentially present in evacuation," (Aguirre, 1980:20). In all the formulations the assumption is that different behavioral patterns are involved for the different types. Whatever the merits of any particular typology proposed, the notion that evacuation should be seen as heterogeneous behavior has some clear implications for both theoretical and practical purposes. For example, to use Perry's terms, protective evacuation as compared to rescue evacuation would appear to create different kinds of stressful situations which might result in different kinds of mental health effects of a negative nature. In turn, this might require thinking whether different kinds of social support systems would be affected and required.
At any rate, the least which might be derived from the conception of heterogeneous evacuation is that sheltering and housing is only one possible outcome of evacuation and not necessarily the most important outcome.

Shelter Behavior

As in the case of evacuation behavior, it is not very useful to treat disaster sheltering and housing as if it were one unitary and homogeneous phenomena. Elsewhere (Quarantelli, 1982) we have suggested that there are different and heterogeneous phenomena that might be best captured under such labels as:

- emergency sheltering;
- temporary sheltering;
- temporary housing; and
- permanent housing.

The conceptual distinctions, to be elaborated on shortly, were developed to make sense of the variety of sheltering and housing activities in the research literature, and what we had observed in over 200 disaster occasions. What is often given the same label both by operational personnel and researchers can be viewed and reconceptualized as quite dissimilar phenomena.

Some organizational aspects of sheltering and housing should be noted for they have implications on what evacuees are subject to, and whether support systems will be disrupted or reinforced in various disaster occasions. Differential attention is paid in American communities to preparing for the different kinds of sheltering and housing problems. Overall, there is little planning of any kind, but to the extent there is any local community-level planning, it appears aimed at temporary sheltering. To the extent that temporary sheltering planning is undertaken, it is often fragmented among various emergency organizations, and is almost always incomplete. There seems to be little consensus on which community organizations should be involved and which should be the lead agency in preparing for temporary sheltering. Congressional mandate and tradition may give the local Red Cross chapter a major responsibility for the task, but this is not always known or accepted, especially outside of the larger metropolitan areas. Local disaster service agencies exhibit the range of "no interest or involvement with the problem," to an effort to accepting as a major responsibility "the coordination of all disaster sheltering and housing activities in the local community." But even in communities where some attention has been given to preparing for disaster sheltering and housing needs, it is not a high priority issue, so that pre-disaster planning on the matter is often incomplete.

We have found it difficult to arrive at overall evaluations of the sheltering and housing which are provided in disaster occasions in American society. There appears to be little overt public reaction to sheltering activities, per se, even though temporary sheltering activities exhibit considerable inefficiencies of effort. Housing, however, in contrast to sheltering, whether of a temporary or permanent nature is the source of widespread and often intense complaints. In fact, some public expression of discontent over the housing provided appears to be a nearly universal feature of major disasters. There often does seem to be lengthy delays (especially in providing permanent housing), unexpected changes of policies, inconsistencies in application of standards and requirements, and in some cases, poor administration
of the programs. However, to what extent such matters are necessary consequences of the occasions, and to what extent they represent a significant lack of efficiency and effectiveness in sheltering and housing operations can only be established by the development of evaluative criteria and comparative empirical data, both of which are presently lacking. In short, we think it is currently impossible to judge in overall terms how well or how poorly sheltering and housing are provided to disaster victims. Nevertheless, there is considerable public complaining, and as often said, if people define a situation as real it is real insofar as consequences are concerned.

However, we would argue that the basis of many complaints which surface about sheltering and housing, should be seen less in the individual evacuees involved than in the organizations trying to help them. There is a tendency for agencies and their personnel to perceive evacuees as being "the problem" and the source of difficulties. However, a strong case can be made that it is such matters as erratic organizational mobilization; poor use of community resources; lack of interorganizational coordination; failure to recognize pre-impact conflicts and differences in community power; absence of intergroup communication; and other organizational and community-level factors which make for the problems in preparing for and providing sheltering and housing. We mention this for two reasons. First, if what has just been said is true, the possible psychological effects on evacuees stems not from the direct impact of the disaster, but from having to adjust to actions (or inactions) especially of the organized helpers. The disaster occasion may be the stage on which the reaction occurs, but the disaster in the sense of any agent is not the prime factor in the situation. Second, as said in the first paper when discussing blame, we think there should be considerable caution in taking complaints only as indicators of psychological stress; they may be far more signs of social structural problems, and perhaps ought to be encouraged rather than "treated." Very realistic political phenomena should not be confused with inappropriate psychological phenomena.

As to the four different types of disaster sheltering and housing which occur, they can be summarized as follows.

1. **Emergency sheltering** probably permits the least planning, but it is possibly the sheltering problem which least requires preparedness planning. Essentially this activity at one level is simply moving "to get out of the rain." Situational factors and contingencies greatly influence if and where disaster victims have to seek emergency sheltering. Thus, some locations become identified as shelters simply because threatened or impacted individuals congregate at a particular place. But because such shelter seeking is of a very temporary nature, disaster victims in such a situation, will readily accept conditions otherwise unacceptable under other circumstances. For example, victims will be willing to stay in public or quasi public quarters for a few hours even though they might not want to sleep overnight. Thus, schools, churches, armories, or any building which can temporarily house large numbers of people can be used for emergency sheltering. Again, because of the brief stay, there is not great need for supervisory personnel or a staff to run such quarters, although emergency medical care may be a problem. Also, because of lack of official involvement, there is the possibility evacuees may assume the immediate danger is over, when it is not, a problem we have sometimes found in the instance of acute chemical disasters.
2. **Temporary sheltering** involves moving into quarters other than one's own far beyond the peak of the emergency period. It almost invariably involves more than obtaining shelter; it also involves feeding outside of pre-disaster homes. It thus requires some community planning, and this in fact is the most locally pre-impact prepared of all aspects of sheltering and housing. However, most preparations are usually for public or mass shelter arrangements; unfortunately, as disaster researchers have consistently found, this is the least preferred of all sheltering arrangements. Overwhelming, disaster victims instead will stay with friends and relatives, although they will, if absolutely necessary, use mass shelters to obtain food. Even those that go to mass shelters stay as briefly as possible. But mass shelters do provide places for distributing information and they can also sometimes be useful in providing quarters for relief workers coming into a stricken community. There seems to be a problem in the providing of emergency medical services at mass shelters; this is frequently noted. When multiple mass shelters are in operation there are often difficulties from uneven distribution of supplies and/or volunteers. Too often the location of mass shelters is dictated by the availability of physical resources rather than where they are most needed and wanted. Often volunteers in mass shelters are not only inexperienced but are generally unaware of established agency policies or appropriate procedures. Shelter management is a definite problem in almost all cases, with security a perceived although not necessarily a real problem. Sheltering evacuees in mass shelters requires far more of an integrated organizational response than is typically recognized in most communities.

Although our knowledge of mass sheltering is limited, it is even more so for other kinds of temporary sheltering. While it is well established that most evacuees go to relatives and friends we know little else, even of a descriptive nature. That the most systematic American field study in this whole area—a massive survey almost ideal in its conception—is one that was done more than 30 years ago is a telling commentary on our lack of knowledge about the topic (see Marks, Fritz et al, 1954; the most recent best survey is one done by Canadian researchers on the Mississauga toxic chemical threat in which 220,000 residents in a Toronto suburb were evacuated, see Whyte, 1980). There is some evidence that unaffected households in an impacted locality will make aid available to evacuees in the community, but we have little idea of the nature, magnitude, and duration of such help. There are some hints in the literature and empirical data that for such help to be offered, a certain proportion of the housing in the community has to avoid being damaged or destroyed. Almost nothing is known about how the pre-impact composition of the population affects post-disaster temporary sheltering, but it might be suspected such factors as age, sex, race, occupation, social class, the distribution of the evacuees, and potential shelter givers would make a difference. There are some indications that households with children are more likely to seek temporary shelter than those without children, but this possibility is supported more by anecdotal accounts than anything else. Similar accounts suggest that the welcome extended to evacuees may not last too long, but there is no hard evidence on the point. It is clear that emergency and relief organizations usually have little knowledge of non-mass shelter temporary sheltering arrangements, and have no ready mechanisms for obtaining information about the phenomena. Such organizations spend their time, efforts, and resources on mass sheltering even though the great bulk of temporary sheltering takes other forms. Without knowledge of temporary sheltering,
relief agencies are handicapped in quickly estimating what temporary housing they might need, which may account for the typical overestimation of the need.

3. Temporary housing involves the reestablishment of household routines but with the understanding that more permanent quarters will be eventually obtained. Far more is unknown about temporary housing than is known. It appears that there is usually an organizational overestimation of the need for such housing, although there are some indications that not everyone who qualifies applied officially for temporary housing. Renters seem to apply for such assistance more than homeowners, although it is unclear whether this is related to income levels, the amount of house damage done by a disaster, social class differences in the acceptability of applying for help, or other factors. What accounts for and what happens to those who apply but then withdraw their applications for temporary housing is mostly a mystery. The time it takes to find temporary housing for victims seems partly related to the capacity of organizations seeking housing for victims to maintain flexibility and not become imprisoned by bureaucratic procedures.

There is some evidence that there are social class differences in the acceptability of using mobile homes for temporary housing; middle class families do not appear to like them. Rental assistance is more desired by households from higher socioeconomic levels. In almost all cases, despite great effort to secure them, mobile homes are seldom the primary form of temporary housing. It does seem clear that displaced persons much prefer to locate a mobile home on their own property rather than in a trailer camp. Such camps are often objected to by the residents of the neighborhoods in which they are located. (The basis of the objection is frequently not clear, and may actually not reflect the real concerns.) On the whole, trailer camps show little collective unity or morale, and not infrequently become the source of certain kinds of social pathologies, especially when children and adolescents are part of the camp population. There seems to be little information and understanding of what might make for a well-run trailer park. Organizations responsible for supervising such parks often compound problems by inconsistent and changing policies and rules. There seems to be little prior knowledge about how trailers may malfunction or be inappropriate for certain localities. If officials neglect the deactivation of mobile homes and restoration of their sites, this can become a source of community complaint.

Very little is known or understood about the phenomena associated with rental assistance for displaced disaster victims. There is some evidence that higher-income evacuees take over such surplus housing as may be available in a community, but the relationship of that to the pre-impact housing stock is unclear. It does appear that there is almost always a problem in finding rental housing for lower-income groups. Placing the elderly also frequently seems to be a problem, which may or may not be related to the matter of income, if some follow-up work we did on the Grand Island, Nebraska tornado displaced persons, can be generalized. There is almost no evidence about the problems of temporary housing for minority groups, although it hardly seems likely the situation would improve for them in terms of their pre-disaster status.

Just as there is little understanding of the relationship of temporary sheltering to temporary housing, there is a similar lack of knowledge about the connection of temporary to permanent housing. In fact, about many matters,
especially those unrelated to mobile homes, we do not have even simple
descriptions of the activities and problems, organizational and individual,
associated with temporary housing.

4. Permanent housing is a matter almost totally ignored at local community
level disaster planning, and perhaps understandably so. One inevitable
consequence of this, however, is that when permanent housing has to be pro-
vided in a disaster, local officials find themselves quite unprepared for
the problem and have to ad lib most of their activities. The problem is
additionally complicated by the fact that the local officials may be dealing
with federal agencies and/or some private welfare groups who may have given
considerable thought and/or had considerable prior experience in obtaining
permanent housing for disaster victims. This situation may additionally
stress the usually uneasy local "amateurs" and "professional" outsider
relationships which is typical of the post-disaster recovery period in most
major disasters. Also involved is the fact that evacuation almost inevitably
involves a round trip—a coming back to as well as a going away from a
threatened or impacted locale.

It does appear that the vast majority of evacuees relocate back to their old
location, often rebuilding on the same spot they occupied in pre-impact times.
However, this seems more true of home owners than renters. Renters not only
take longer to obtain permanent housing, but sometimes they never return to
the same location. There often is actual resistance or objections to the
development of multi-family housing units which could be used as rental
property. This appears to create a particular problem for the elderly, who
are usually renters. However, as a whole, we have little data about the rate
of obtaining permanent housing, which segments of the population have the most
problem in obtaining such housing, and what happens to those who are very long
delayed in getting permanent quarters.

Overall, it does appear that the kind of permanent housing which will be
developed in a community after a major disaster is related to the pre-disaster
housing situation and the influence of various local interest and power groups.
The latter groups, appear to insure that in the long run the housing configur-
ation of the community as a result of the permanent housing stemming from the
disaster, will not be significantly different from the pre-disaster situation.
However, the importance of business and financial interests in the rebuilding
process, how various power groups interact with one another, and in what way
extra-community agencies can and do effect the end result, are barely hinted
at in what has been studied so far. But at the very least, there is the sug-
gestion that the whole process of permanent housing in the aftermath of a
major disaster cannot be understood independent of the larger community
context. Whatever the governmental policies and programs for rebuilding are,
they only develop, in ways not yet understood, in the context of the past
history and social factors operative in any given community. They are not
dependent only on what happened to the housing stock in the disaster. We have
found this in disasters ranging from the Xenia tornado to the Wilkes-Barre
flood, from the Teton Dam collapse to several hurricanes.

Finally, sheltering and housing phases do not usually develop in a neat
linear fashion. In a given situation, some disaster victims may be entering
the permanent housing phase while others are still in the emergency sheltering phase. Furthermore, in any given phase there may be several moves as a family goes from one temporary housing situation to another. As a consequence, governmental organizations and relief groups may concurrently be dealing with segments of the population at different points in the sheltering and housing activities after a major disaster. Sheltering activities may overlap with housing activities and some permanent housing may occur before some emergency sheltering is finished. Site preparation for mobile homes may have to be undertaken at the same time other used trailers are being prepared for storage. For particular household, sheltering generally precedes housing, and emergency sheltering precedes temporary housing which precedes permanent housing; however, organizations assisting victims may find themselves concurrently involved with different phases of sheltering and housing. If nothing else, these varied activities suggest that a need assessment survey which captures only a picture at a point in time, may be missing significant changes as the dynamics of the sheltering and housing processes unfold.

A Few General Implications

Finally, is there anything which can be generalized from all we have said so far? We think that apart from specific points already made or easily inferred, there are two general points which can be made. They have to do with the heterogeneity of the phenomena, and the absence of a direct link to disruption of social support systems.

First, it is not a valid approach from our perspective to talk of evacuation, or sheltering and housing behavior, or in the words used in the questions addressed to the panel, relocation and temporary housing, as if their referent was some obvious homogeneous phenomena, or worse, as if the terms could be used somewhat interchangeably. There are different clusters of behavior which have different career paths. What we have called temporary sheltering and temporary housing, for example, involve rather different phenomena. The basic implication, of course, is that if we want to see how the range of phenomena we talked about, the "something" which may affect social support systems, we need to make finer distinctions than perhaps were implied in the question addressed to the panel.

Second, as we view it, there does not seem to be any direct or automatic link between what we discussed under the general rubric of evacuation and shelter behavior, and disruptions of social support systems. For example, as we indicated, if in any of these behaviors, the family acts as a collective unit, the supportive social environment is maintained. On the other hand, in another example we gave, we speculated that certain kinds of social couplings may have their supportive social environments weakened if they engaged in the same kinds of behaviors. Put another way, it is possible that it is not any of the kinds of evacuation and shelter behaviors per se which we discussed that are directly responsible for maintaining or disrupting supportive social systems; other aspects of the social situation which may have to do with pre-impact social structural aspects, such as social class, may be more important. Phrased another way, it may not be "relocation or temporary housing," or any of the different forms of behavior we discussed that may be crucial. The famous Australian study of the victims of Cyclone Tracy in Darwin, Australia, suggests to us that is was neither evacuation or
non-evacuation which was the critical factor in generating negative mental health effects, but whether a supportive social environment was or was not available. Similarly, our reading of the aftermaths of several American disasters is that the temporary housing of victims in trailers or mobile home parks as such was not a problem in itself. Rather stressful psychological situations and negative mental health effects resulted because "strangers" were assembled together, and the evacuees could not maintain supportive pre-impact social ties and relationships. If local neighborhoods had been socially reproduced in the parks, the outcomes might have been rather different. This may not be the orthodox way of thinking about it in the disaster area, but we will note it took the area of criminology decades to get away from the idea that bad housing produced delinquents, or that slum neighborhoods were not necessarily areas of personal or social disorganization.

Let us conclude this second paper with a parallel to an observation drawn from disaster studies about organizational planning and management of the emergency period of disaster occasions. As we have written elsewhere, good planning should slow down the early management efforts in a disaster. The key objective of planning and management is not quickness of response but appropriateness of response. An appropriate response requires valid knowledge about what is happening in the emergency and a good understanding about the overall picture of what is occurring. In a parallel fashion, if suggestions are to be made on how to improve mental health needs assessment surveys, it is more important that what is done be done appropriately, than that it just be done. How valid is our knowledge base and how good is our understanding of mental health aspects of disasters, to allow appropriate suggestions to be made?
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