

WHAT IS A DISASTER?
AN AGENT SPECIFIC OR AN ALL DISASTER SPECTRUM APPROACH
TO SOCIO-BEHAVIORAL ASPECTS OF EARTHQUAKES?

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Introduction: The Problem Question

Kenneth Burke once wrote, "A way of seeing is also a way of not seeing" (quoted in Lindesmith and Strauss, [1949; p. 101]). One implication of this remark is that all of us are partly blind in almost all situations since we get accustomed to looking at various situations in set customary ways. People interested in the disaster area are not immune to this kind of blindness. We all have a habitual way of looking at disaster phenomena.

This paper is aimed at making us better aware, perhaps, of some of the consequences of our usual blindness. If the comments and observations made make us more conscious that the way we habitually see phenomena is not the only meaningful way possible or the only obvious one, it will have achieved its major goal. While later on, we eventually advocate one kind of perspective for certain kinds of earthquake phenomena, the purpose of this paper is less one of converting people to a particular approach than it is to try to suggest that there are different ways.

In this conference we are basically concerned with earthquake phenomena, or more specifically, with the social and economic aspects of earthquakes and planning to mitigate their impacts. Less than twelve months ago, I attended a workshop on aircraft disasters [Quarantelli, 1980a]. Just about a year ago, at the Disaster Research Center we had a national invitational meeting on preparations for and responses to acute chemical emergencies [Gray and Quarantelli, 1981]. Conferences on flash floods have regularly been held for the last several years in the United States. Earthquakes, aircraft accidents, acute chemical emergencies, flash floods--in each case, one kind of disaster or disaster agent has been the primary if not exclusive focus of attention of those in attendance. In contrast, also in the last few years, I have been at international and national conferences where the over all or basic theme of the meeting has been disasters of all kinds (e.g., The Sociology and Social Psychology of Disasters at the 9th World Congress of Civil Defence in Rabat, Morocco, November 1980) or extremely broad classes of disasters (e.g., as at the annual Natural Hazards Workshop held at the University

of Colorado) or very general categorical topics, such as disaster medicine (see, for example [Quarantelli, forthcoming], or disaster relief [Baiseden, 1979]. The assumption in these conferences was that it is possible to talk of disasters generally and to take a generic approach to disaster problems. The first set of meetings I mentioned seemed instead to assume an agent specific approach to disasters and to take a particularistic approach, be it earthquakes, aircraft accidents, acute chemical emergencies, or flash floods. This polarity between an agent specific and a generic approach to disasters shows up in more than meetings of those interested in the disaster area. Planning organizations and operational agencies as well as researchers and theorists also tend to divide in roughly the same way. In other words, a polarity in orientation is pervasive among those involved with disasters, be it in mitigation, preparedness, response and recovery activities, or in studying disaster problems.

For example, in my own state of Ohio in the United States, chemical emergencies are handled by a state agency, the Environmental Protection Agency, which is totally separate from the organization responsible for planning and operational work for floods in our state. Some research institutions have a specific agent focus, others do studies across-the-board insofar as disasters are concerned. Thus, there is the Earthquake Engineering Research Institute, and there is also the Disaster Research Center which looks at a range of accidents and catastrophes from tornadoes to plane crashes, from hurricanes to acute chemical emergencies, from coastal shore erosion to forest and building fires. The literature in the area also tends to divide into agent specific and generically oriented publications. There is the journal Disasters which has articles involving a wide range of disasters from earthquakes to aircraft accidents, from agricultural frosts to famines. Then there is the Journal of Hazardous Materials which limits itself primarily to chemically generated disasters. Similarly, we have the newsletter Unscheduled Events which in practice covers civil disturbances and disorders and other mass emergencies, as well as a very wide range of natural and technological disasters. In addition there is the newsletter The Earthquake Information Bulletin or the Bush Fire Bulletin. Not unexpectedly, funding agencies and policy groups in governments also represent a mixture of agent specific and generic disaster orientations.

This kind of polarity or dichotomy also shows up at another level, which I will only briefly and indirectly discuss, but is worthwhile noting because it involves what almost everyone would agree would represent an extreme manifested in both planning and activities as to whether wartime nuclear catastrophes and peacetime natural disasters can or cannot be treated as meaningful members of the same class, or whether the differences between the two kinds of phenomena are essentially differences in kind rather than just degree. A U.S. National Academy of Science committee, of which I was a member, recently struggled with this problem. It attempted to identify similarities and differences, for example, between the detonation of privately made nuclear weapons by terrorists and the impact of tornadoes, between limited nuclear attacks and earthquakes, between nuclear power plant accidents and riverine floods, and between hazards associated with the transportation of nuclear

materials and those involved in the transportation of hazardous chemicals. The comparisons attempted clearly showed a conscious belief that trying to perceive phenomena which are not usually grouped together within the same framework might prevent us from being partially blind in the way stated at the beginning of this paper. However, the committee's final report has not yet and in fact may never be published because of a strong difference of opinion among the reviewers of the report as to whether it is or is not scientifically meaningful or even possible to compare hazardous nuclear incidents and non-nuclear disasters. To some, the agent specific characteristics of the nuclear phenomena puts it into a different class than other disaster agents. Thus, there are those who argue that any type of dangerous nuclear-related happening produces such special and unique problems that neither the research findings nor the organizations' plans and operations pertaining to other types of disasters have significant relevance. Perhaps some of you may have the same view about earthquakes.

On the other hand, even in the admittedly extreme case of the nuclear area, a different position is sometimes taken by those with policy and operational authority and roles. Thus, when there was a reorganization last year of those multiple groups in the federal government of the United States most concerned with mass emergencies which had national implications, certain responsibilities for a very wide range of emergencies was in principle and nominally, if not in fact or practice, centralized in one agency, the Federal Emergency Management Agency (FEMA). This new organization is intended to deal with wartime as well as peacetime natural disaster emergencies, as well as a variety of technologically generated accidents including those in the nuclear area, plus a variety of other potential crisis situations resulting from fires or terroristic acts. Clearly FEMA was established with an all hazards approach in mind and an assumption that for many purposes the management problems of any emergency are similar irrespective of the agent involved. There is an implicit view that plans and programs designed to mitigate, prepare for, and counteract the destructive forces emanating from natural and other peacetime disasters, can be applicable to whatever efforts might be required for various nuclear hazards, including full scale nuclear war.

In the last two paragraphs, therefore, we see how an agent specific or a generic disaster approach can be taken even in the extreme case of nuclear phenomena. It also illustrates that the issue we have raised is not merely an academic exercise but has meaning in what is or is not done at policy, planning, and operational levels. Put another way, different decisions are made, different actions are taken, different resources are mobilized, etc., depending on whether or not an agent specific or an all disaster spectrum approach is assumed.

I do not think that further illustrations are needed to show we sometimes approach disasters in very specific agent terms and that sometimes our approach is in generic terms. All of us, researchers and planners, operational people and policy makers, vary in our approaches, some of us taking one approach, others assuming the opposite approach. Perhaps this bothers you; perhaps it does not. But to me this

polarization or dichotomy in approach is something we should consciously and explicitly address. I think we need to clarify what we are assuming one way or another. Thus, the title of my paper and its question: An agent specific or an all disaster spectrum approach to socio-behavioral aspects of earthquakes?

The Question Behind the Problem Question

Of course, this questions begs a prior question. Why does the distinction, the polarity or dichotomy exist? What accounts for why different people and groups tend to take one or the other of these approaches? Few have attempted to answer this question. The basic imagery or model of the phenomena, which underlies how disaster planners and disaster researchers go about their work, has not been a focus of much scholarly concern or academic scrutiny. Yet, to the extent that the reasons for the polarity in approach to disaster phenomena remain unexamined, there will have to continue to be uncertainty about the relative efficiency and effectiveness of using one approach as opposed to the other.

We will not pretend we will be able in this paper to examine in totality why two perspectives exist. We will certainly not attempt to examine in historical terms how one disaster agent or limited classes of related agents became the focus of some bureaucratic domain even just in the United States. It is relatively clear, for example, that the historical fractionalization and compartmentalization of federal agencies with responsibilities in planning, research, or operational functions relating to disasters, hazards, and emergencies have tended to emphasize differences rather than commonalities among various types of disasters and have supported an agent specific orientation. Thus, we have or have had the U.S. Fire Administration, the Defence Civil Preparedness Agency (with a nuclear warfare orientation), the Environmental Protection Agency (with a focus on certain kinds of liquid, gas, and solid waste pollutants), the Nuclear Regulatory Commission (with major responsibility for nuclear reactor plants), the National Weather Service and the U.S. Geological Survey (with foci on different meteorological and geophysical hazards), etc., not to mention the National Hurricane Warning Center, the Center for Disease Control, the Tsunami Information Center, the Severe Storms Forecast Center, etc., as well as the Flood Insurance Program, the Federal Dam Safety Program, etc. Also, we will do no more than mention that at regional, state, county, and local community levels there are myriad agencies, commissions, and departments each focusing on only one separate, specific kind of disaster ranging from urban drought to rural fire problems.

Since one review a few years ago found over 100 federal level agencies alone had some formal disaster responsibility in the United States [Fritz, 1977], to trace how and when different groups were assigned or took over different specific disaster related activities or functions would be a herculean task. I do think such a historical reconstruction would be very informative. In the case histories we should be able to see what factors entered into the dynamics of how

"disasters" were divided up and parcelled out to different governmental agencies (and even a few which were primarily left for the private sector as in the chemical hazards area). In addition, a cross-cultural study of which different government agencies in various societies have taken over or been assigned the phenomena of earthquakes might be especially interesting and how earthquake prediction is currently being organizationally assigned could be a fascinating examination of some of the interface between the world of science and the world of politics. However, such research and scholarly excursions are for others at some other time.

Our immediate goal is much more modest. It is to suggest that what lies behind the distinction between an agent specific and a generic approach is the simple matter of how disasters are conceptualized in the first place. I use the term "simple" here solely to indicate that what is primarily involved is basically a conceptual problem. The problem itself is very complex.

What is a disaster? Elsewhere, I recently stated that people in the disaster area have unfortunately mostly avoided explicit and systematic attention to this question [Quarantelli, 1980c]. Too many have accepted the view that "a disaster is perhaps easier to recognize than it is to define" [Barkun, 1974, p. 51]. But while there has been relatively little manifest academic 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] [Barton, 1970] [Stoddard, 1968]) and the many implicit assumptions about the phenomena, it is possible to pull together what people and groups assume or think about when they use the word or term "disaster."

Different Conceptions of Disaster

There are at least seven different major ways in which disasters have been either implicitly or explicitly conceptualized. At least in ideal type terms we can say that the problem has been or is approached in these relatively distinct, although in some cases, related ways. The seven views we will note do not cover all the definitional and operational ways that have been and are used to designate "disasters" (e.g., the American National Red Cross operationally defines as disasters those situations of distress involving five or more families). They do not represent all the arguments made or all the empirical phenomena pointed to in discussions about what constitutes a "disaster" (e.g., that disasters are actualizations of structural vulnerability, see [Pelanda, 1981]). Furthermore, even the same writers or speakers are not always consistent in their usage of the term, and, of course, there is no widespread consensus about the label--it is a sponge word or concept as noted over a decade ago [Quarantelli and Dynes, 1970, p. 328]. Nonetheless, the seven ways we will discuss do represent relatively different emphases in answering the question: What is a disaster? As such, we will identify what is being pointed to, and briefly note the case made for each particular formulation. Later, by contrasting

extremes, we will note what implications there are for theoretical and practical purposes in accepting one version or another of what constitutes a 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 disruption 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 noted 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 event to a focus on social situational aspects. Thus, as an example, the physical land movement which is an earthquake, is in the later formulations, conceptualized as a disaster only if it involves certain social phenomena--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 societies [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 listed above in more detail, in no sense will the discussion be exhaustive. For the most part, we will ignore the reification and anthropomorphism 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 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 "man-made" 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, p. 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 geophysical 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 Mount St. Helens may have a prolonged duration. The typical earthquake impact is relatively short, although there can be repetitive shocks or aftershocks. 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 assessments 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 of the ten agents are discussed. Thus, in the instance of earthquakes 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, pp. 71-83].

In this approach, there is the notion of a benchmark or a 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 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, p. 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, a 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, I 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 in 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 topography 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 [Danzig et al, 1958]. This behavior, however, is not distinguishable from that studied in the actual Teton dam break [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 sociological 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 conceptualized 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, p. II-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 [Quarantelli, 1970].

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 I 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 from 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, p. 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 [Brown and Goldin, 1973] [Westgate and O'Keefe, 1976]. 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 that there have been instances of nations officially declaring that no disaster has occurred when by other definitions of disasters there has 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 [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 at crisis time [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 officially to 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 have not entered into the decision to

make or not make a declaration, as well as affecting other aspects of the situation being addressed.

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, p. 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 imbalance in the demand-capability ratio in a crisis situation.

There are those who argue that a "disaster" is better thought of as a particular kind of crisis situation, 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 an earthquake 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 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 [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 [Taylor et al, 1976], communities or societies. Furthermore, the general idea can be used whether the occasion is a very diffuse or acute one, 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, p. 57].

Implications of the Conceptualizations

We made an excursion in the last few pages into different conceptions of disasters because we believe that the view of what constitutes a disaster mostly underlies taking an agent specific or an all disaster spectrum approach to earthquakes or other kinds of "disasters" for that matter. Instead of looking at the separate implications of each formulation, time and space considerations will limit us to making a collective contrast between the first three conceptions, and the last four conceptions. As a whole, the first three are either consistent with or require an agent specific 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 for 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 [Cornell, 1976, p. 110]. Higher figures are given by others [Disaster Preparedness, 1972, p. 75]. Nevertheless, there is a physical phenomena, whether sensed directly by humans or not, the dynamics of which can be and are usefully studied.

But an important question is whether it is equally valid to also look at earthquakes 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 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, obvious by now, is that more is to be gained by taking the latter rather than the former position. It is not only defensible but necessary, for example, for seismologists to look at earthquakes as disaster agents in very specific terms. It is not as defensible for social and behavioral scientists to do so; it is far more useful for them to approach disasters involving earthquakes as part of a more generic class. In fact, we think it becomes increasingly necessary to do