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SOME NEEDED CROSS-CULTURAL STUDIES
OF DISASTER BEHAVIOR*

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ABSTRACT

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In this paper we first briefly indicate the need and the value of doing
cross-cultural research on disasters and detail something about the na-
ture of the studies so far undertaken, implying thereby some of their
limitations. The second half of the paper elaborates a framework which
might be used to systematize cross-cultural studies of disasters, sug-
gests some substantive research priorities and indicates in what ways
such work might be organized. This paper, therefore, is a review of
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PREVIOUS RESEARCH

It is, of course, standard to advocate cross-cultural studies in the

social sciences, although the call for such research far exceeds the carrying

out of such work (Marsh, 1967). However, cross-cultural examinations are

perhaps more necessary in looking at the social and behavioral aspects of

disasters than in most other areas of scientific inquiry. This is due to

the up-to-now overwhelming American presence, both in the national back-

ground of disaster researchers and the geographic site of disasters stu-

died. The exact extent of this selective involvement varies somewhat

depending on the criteria of exclusion and inclusion used. A preliminary

inventory (Quarantelli, forthcoming) of all social and behavioral science

empirical research of disasters ever undertaken any place at any time,

suggests that over ninety percent of all disasters studied have occurred

in the United States and a slightly higher percentage of the studies have

been undertaken by American nationals. The situation has changed somewhat

in recent years, as French, Japanese, Canadian, British, Belgium, Australian, Italian and other researchers around the world have launched studies into disasters, but the bulk of the work and the students continue to be American in orientation.

Apart from the need to redress this imbalance, with the potential ethnocentric bias of observations and interpretations that may be involved, disaster study provides an exceptional opportunity for the comparative analysis of societal, community, institutional, organizational, group and individual behaviors. Disaster events are particularly useful for comparative description and analysis, since they activate a variety of structures and processes with which social and personal actors attempt to cope with the unusual situation. Unlike many other happenings, disaster agents, from their very nature in all cultural settings, force some sort of adjustive response; they cannot be ignored given their literal imperilment of life, disruption of routines and endangering of property. In addition, such extreme stress situations allow an examination of complex social and psychological phenomena which in "normal times" remain hidden or emerge more slowly. As has often been said, great stress brings out the generic or fundamental aspects of behavior divorced from the superficial or the accidental; this stress surfaces panhuman and pansocial features. Finally, disaster events are also useful for comparative purposes, since they not only help us in understanding the more immediate adaptation to extreme stress but also help in assessing longer-run consequences. In fact, the latter may often be more important than the former, for disasters are not only the embodiment of ephemeral news but the stuff of permanent history.

Despite these alluring features, however, there is a surprising lack of disaster research which cuts across societal boundaries. As several

reviewers of disaster literature have recently noted (McLuckie, 1970a;
Dynes, 1975; Mileti, Drabek and Haas, 1975), cross-cultural studies of
disasters have been, both relatively and absolutely, very few in number.
As far as we have been able to ascertain, to this time there have been only
three explicit comparative studies completed, and one other study is in
the process of being finished. A brief look at what these studies cover
reveals that very little of a cross-cultural nature has even been the sub-
ject of a glance, much less of a study.

The first explicit study was undertaken by Clifford (1955), who seized
upon the opportunity presented by a flood that threatened two neighboring
communities on opposite sides of the Rio Grande River which separates
Mexico and the United States. Clifford found that, in contrast to the Amer-
ican community, in the Mexican community there was a greater dependence on
the kin group as a source of advice and help and a greater reluctance to
accept formal or official pre-disaster warnings and post-disaster aid. In
Mexico there was a greater resistance to cooperative relationships among
emergency-related organizations and agencies and a stronger dependency
upon "heroic", personalized leadership rather than on "rational", bureau-
cratic authority and cooperation. Clifford suggests that the differences
in response could be attributed to the tendency in Mexico to place greater
emphasis on ascriptive criteria such as age, sex, class and kinship in
ordering social relationships, and to a greater emphasis in the United States
on formal group positions rather than informal personal relationships in
the activation and on-going activities of complex organizations and
agencies.

McLuckie, in his doctoral dissertation (1970a), drew on studies con-
ducted by the Ohio State University Disaster Research Center in three of

the dozen countries in which it had undertaken field studies. He looked

at certain aspects of disaster responses in Japan, Italy and the United

States - countries very similar on a number of demographic, economic and

political variables and subject to similar types of disaster events. These

societies, however, differ in their degree of political centralization,

with Japan being the most highly centralized, the United States the least

centralized, and Italy falling between them. By matching as many variables

as possible, McLuckie was able to analyze the consequences of political

centralization on the performance of similar tasks in each of three dif-

ferent disasters (one earthquake and two floods) in these societies. He

found, for example, that preventive actions involving warnings and evacu-

ations were often delayed in the more centralized societies. Established

patterns of decision-making, which traditionally involve higher level

authorities, make it difficult for local people to make decisions, even

though they have a more realistic assessment of the danger in a situation.

McLuckie also found that response to disaster tasks, which were of an

immediate emergency nature, tended to involve less centralized decision-

making, regardless of the social structure. However, he also found that

the degree of centralization in decision-making varied with the time order

of the disaster; for example, centralization was less important in the

initial stages when high priority or emergency tasks were involved, but

its importance was reasserted in the later stages of disaster activity.

Finally, William Anderson (1969), in another analysis, did attempt to

pull together initially independent field studies by the Disaster Research

Center of the response of the military in five different societies - in

Chile, Italy, El Salvador, Japan and the United States. He found that in

all societies the structural features of the armed forces, such as their

established command systems, allow them to provide valuable emergency services to disaster-struck communities. On the other hand, in more centralized societies there is a tendency for military organizations to become involved in post-disaster relief activities in a leadership role rather than in a supportive capacity. However, Anderson also noted that the involvement of the military in natural disasters was also a function of the structure of local communities, with the military more likely to get involved in emergency relief activities when the affected community did not have an effective organization and leadership to cope with the crisis created by the disaster.

More recently, social scientists from the University of Colorado and Clark University have been making an explicit comparison between responses to the Managua, Nicaragua earthquake and to recent (the Rapid City flood) and past American disasters (the Alaskan and the San Francisco earthquakes). One focus is on family responses. It has been found that there are societal differences in the degree to which aid from kin is used, in the amount of aid from extra-familial sources, and in the extent to which disaster victims rely on personal resources (Trainer and Bolin, forthcoming). This recent research constitutes the most conscious effort by far to do a truly cross-cultural study in the disaster area.

Apart from these rare explicit cross-cultural studies, there have been about a dozen other studies which have utilized an implicit comparative framework. That is, the dimensions used to look at and observations of disasters made in one society have been assumed, with varying degrees of explicitness, to order and to look at a disaster in another society. For example, Grimshaw (1964), took what was supposedly known about family and governmental responses in American society and looked at

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responses in an Indian flood in such terms. A series of extensive studies
of the Holland flood of 1953 (Instituut, 1955), was more incisive than
other similar research because it was guided by what was known about disas-
ter responses in the United States up to that time. The Disaster Research
Center made an implicit comparison between its early research findings on
responses to the 1964 Alaskan earthquake and its later research on the 1964
Niigata, Japan earthquake (Dynes, Haas, Quarantelli, 1964). More recently,
in Australia, Wetterhall (1970, 1975) and with Power (1969) implicitly and
semi-explicitly took much of the disaster research literature and attempted
to see to what extent findings elsewhere were also observed in the brush
fire that affected Hobart in Tasmania. There have also been some implicit
cross-cultural studies of perceptions of natural hazards (White, 1974)
which, however, have not involved research into responses to actual disas-
ters.

The values of these studies, limited although they may be in many
respects, are that they do indicate that cross-cultural studies can be
done, and that there are universalistic and particularistic features in
disaster responses. These may seem obvious things to say; however, they
do appear worth saying. For one, it is easy to conjure up all kinds of
reasons why cross-cultural studies are impossible to conduct, expecially
in a disaster context; what has been done shows that such fears may be
overstated. Furthermore, what has been observed does indicate that what
currently passes for generalizations in the disaster area may be scien-
tific generalizations only in some cases.

FUTURE RESEARCH

It is clear that almost all previous explicit and implicit cross-cultural research in the disaster area has been quite unsystematic and non-cumulative. This has been noted at several recent international meetings of disaster researchers. In a week-long Japanese-United States Seminar on Organizational and Community Responses to Disasters it was concluded that if cumulative findings were ever to be obtained, it was time for the laying of groundwork "for joint and/or cooperative research in the disaster field" (Proceedings, 1972: 306). A later meeting in Paris involving researchers from Belgium, England, France, Japan and the United States formally proposed that the next meeting of international disaster researchers actually start to formulate some common research project (Les Comportements Associes aux Catastrophes, 1975), so that a start could be made toward a systematic effort.

Building on what was advocated in those two meetings, this paper therefore now: (a) proposes one tentative systematic scheme for approaching cross-cultural research in the disaster area; (b) alludes to possible priorities in substantive topics which might be studied; and (c) concludes with a brief examination of how such work might be organized. This therefore is a programmatic preliminary statement on what might be studied and how it could be studied, and makes no pretense of presenting a final or definitive view on the problem. We consider our presentation as useful primarily because it does suggest some options and alternatives out of those available, and, as such, is a necessary first step towards the laying out of a range of possible lines of study from which researchers in this area might be better able to choose in the future.

A Systematic Framework

Different kinds of schemes or frameworks could be used to guide and to order cross-cultural studies. Certainly our examination of the literature (Rokkan, 1968; Holt and Turner, 1970; but especially the annotated bibliography of Garfin, 1971) indicates that, totally apart from the disaster area, no particular formulation dominates cross-cultural studies. If anything, scholars involved in such research push the theme that any scheme used should reflect important aspects of the specific area being studied.

In line with our earlier comments, we therefore propose an analytical scheme whose basic dimensions are, we believe, relatively free of cultural bias and capture the range of phenomena which are involved in all disasters no matter where in the world they may occur. Essentially we suggest that there are at least six different possible universal units of study and 13 different universal disaster problems. This is more than an expression of a hope. When this scheme was applied in an exploratory fashion to most of the 23 different disaster events in eleven countries which were the object of field studies by the Disaster Research Center, the scheme proved useful in structuring field data gathering efforts and/or in ordering data analyses. This does not mean that the formulation advanced is without flaws or that more powerful schemes might not be developed; it does, however, mean that our formulation has some operational research value.

The six units of study which we think should be used in cross-cultural studies are: individuals, small groups, organizations, communities, institutions, and societies. We do not have space to justify in detail the choice of these six, or to itemize the important ways in which they differ from what a few other writers have presented as ordering schemes (e.g., Moore, 1956;

Fritz, 1961; Barton, 1970; Chandessais, 1973). It is perhaps sufficient to say here that we take those major social clusters which we see as the basic units which tend to respond to disaster events in all settings as the possible units to be studied. "Institutions", perhaps the least self evident of otherwise standard concepts for responding social entities in sociology, has reference to complexes, such as emergency medical care health delivery systems which usually extend beyond community boundaries and yet are far from being societal units. Are these responding entities systems (e.g., Mileti, Drabek and Haas, 1975)?- what is the nature of the relationship between them (e.g., Taylor, 1976)?- what is their relative importance in affecting what occurs (Stoddard, 1968)?- and numerous similar issues and questions which legitimately can be raised, we believe are empirical matters and are not to be decided by definitions or conceptualizations.

Responding units attempt to deal with the demands engendered by disasters. These demands are essentially of two kinds: disaster agent-generated demands and disaster response-generated demands. The former has reference to problems and requirements for response created by the disaster agent itself; the latter refers to another set of problems and requirements brought into being by the very activities that take place in response to the disaster agent (Dynes, Quarantelli and Kreps, 1972).

There are at least eight agent-generated demands: (1) warning; (2) pre-impact preparations; (3) search and rescue; (4) care of the injured and dead; (5) welfare needs; (6) restoration of essential community services; (7) protection against continuing threat; and (8) community order. There are at least five response-generated demands: (1) continuing assessment of the emergency; (2) communication; (3) mobilization and utilization of resources; (4) coordination; and (5) control and authority. Here we have not the space

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needed to detail each specific demand, but they have been described at length elsewhere (Dynes, Quarantelli and Kreps, 1972). From our point of view their importance is that all these demands are universalistic, that is, they will always be found in all disaster situations, although their particular content will vary considerably from one setting to another. In fact, it is this combination of variation in content in a universalistic form which makes these dimensions useful for application in a cross-cultural study.

Furthermore, and even more important, these 13 different universal disaster problems can be cross-classified with the six previously discussed universal responding units. Or stated another way, it is possible to study organizational level response with regard to all 13 problems, or it is possible to do research ascertaining how small groups, established or emergent, deal with the range of problems and requirements indicated. In a cross-classification, 78 cells of distinctive phenomena for possible cross-cultural research are generated as diagrammed in Table I.

Priorities of Research Efforts

Not everything can be studied at once. More important, some lines of research have either more theoretical and/or practical payoffs than other possibilities. A case can be made that greater payoffs would be found in those substantive topics or areas in which the greatest amount of empirical research has been conducted up to the present.

Our reading of the literature leads us to conclude that far more research has been conducted with, in rank order, organizations, individuals and communities as the major unit of study than has been undertaken with small groups, institutions or societies (for a somewhat different rank order based on a narrower range of surveyed literature, see Mileti, Drabek and

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TABLE 1

Universla Disaster Problems Cross-Classified by Universal Responding Units

DEMANDS	UNITS					
Agent-generated	1. Individuals	2. Small Groups	3. Organizations	4. Communities	5. Institutions	6. Societies
1. Warning						
2. Pre-impact preparation						
3. Search and rescue						
4. Care of the injured & dead						
5. Welfare needs						
6. Restoration of essential community services						
7. Protection against continuing threat						
8. Community order						
Response-generated						
1. Continuing assessment of emergency						
2. Communication						
3. Mobilization & utilization of resources						
4. Coordination						
5. Control and authority						

Haas, 1975). This suggests that for cross-cultural studies priority should be given to research involving the former three units rather than the latter three. Of course, if different criteria were used -- for example, implications for planning -- a different selection might be made. But if the emphasis is on advancing cross-cultural studies, considerations having to do with the existence of already undertaken studies are not unimportant.

The matter is more complicated when the demand dimension is examined. We would advance an educated guess here that more studies have been undertaken on warning, pre-impact preparations and welfare needs than have been conducted with other agent-generated disaster demands. With respect to response-generated disaster demands we would also speculate that more research has focused on coordination and communication than the other response topics we previously listed. At least a case can be made that a body of research already exists for the substantive topics indicated. For example, there is the work by Mileti (1975) and by McLuckie (1970b) on warning. Pre-impact preparations are discussed in numerous Disaster Research Center publications (see Quarantelli, 1976 for an annotated bibliography) as well as by Japanese researchers (Abe et al., 1974). Similarly, as examples might be cited the work of Barton (1970) and of Dynes and Quarantelli (1975) on coordination, and of Williams (1956), Stallings (1971) and, in Canada, the Emergency Communications Research Unit of Carleton University (Scanlon, 1974) on communication. The writings of Fritz (1957, 1961) and in collaboration with Marks (1954) are replete with hypotheses and generalizations on all of the above topics.

These remarks, of course, provide only a very rough order of priority. An elaboration of the necessary, more specific focusing is beyond the possible scope of this paper. However, an excellent example of research which should lend itself very well to cross-cultural studies seeking panhuman and

pansocial responses is provided by the work undertaken by Drabek with colleagues on warning and evacuation (1968, 1969, 1971, 1972). Another potential topic for focused study which has already been the subject of considerable research in Japan, France, the United States, Sweden and England is panic flight (see Abe, 1974; Chandessais, 1966; Quarantelli, 1975; Rosengren, 1974; Wood, 1974 for discussion of studies in these countries).

We would also finally suggest that cross-cultural research in its focus on the above topics deal not only with established but also emergent social entities, be these at the small group, organizational or institutional levels. As Drabek observes, "numerous writers have described various types of emergent groups that become organized to confront various challenges," (Mileti, Drabek and Haas, 1975: 71). Zurcher (1968), Forrest (1974) and Taylor (1976) have done specific studies which would seem particularly worthwhile redoing in a disaster setting drastically different from American society. Our major point here is the need to study new and emergent social forms as well as the more traditional and established entitites which respond to disasters; it is very easy to overlook the former and to overemphasize the latter.

Organization of the Research

Aside from some passing remarks in scattered sources (Proceedings, 1972; White, 1974; Les Comportements . . . 1975), almost no one has addressed the question of how cross-cultural disaster research might best be undertaken. There are at least three major possibilities, each with advantages and disadvantages. The research could be done through separate but parallel efforts, through independent but common efforts, or through joint efforts.

Ideally, joint efforts would appear to be the best approach. That is, truly integrated teams of social and behavioral scientists from different

cultural backgrounds and societies might be assembled in the field to study together the same disaster phenomena. The advantages of such a joint effort would be many and are obvious. In fact, such an approach would have all the positive possibilities that are typically attributed to large-scale comparative research.

However, there are many problems and difficulties with any attempt at a joint effort. They range from very mundane and practical problems to very abstract and theoretical difficulties. Accounts of interdisciplinary and other cross-cultural efforts outside of the disaster area suggest that even in well established fields, joint research efforts are not all easy to carry out. Given such difficulties elsewhere and given the current status of disaster theory and research, we do not feel that the time is at hand for venturing a joint effort. We do believe that such an enterprise ought to be the goal of disaster researchers, the ideal state towards which they should strive. But it is an objective that might more realistically be tackled by a second or third genera-tion of international disaster researchers, and not by the first generation, which we represent.

Separate and parallel efforts would not be that much different from the disaster studies discussed earlier that have used an implicit, comparative framework. Continuations, or even extensions, of such studies are better than no implicit studies at all. However, it is difficult to see how any cumulative findings can be obtained and how coverage of important questions and truly comparable research designs would not be left to chance through such an approach.

Consequently, we think that independent but common research efforts would be the best strategy at the moment. As we see it, this would involve teams of researchers in different countries agreeing to the study of some common

disaster problem -- perhaps one of the high priority research topics noted earlier -- exchanging ideas about a possible research design, agreeing that at least part of the research in their respective societies would use identical research instruments, and finally, exchanging such data as have been collected through the common research design. There would be many advantages to such an approach. For example, natives of the country involved would struggle with the conceptual and linguistic equivalency problem that much of the cross-cultural literature, particularly on interviewing, mentions as a major difficulty (Rokkan, 1968; Holt and Turner, 1970; Vallier, 1971). The issue of outsiders doing research in another country would be circumvented. Researchers versed in interpreting data from their own societies would prevent absurd perceptions of the data by analysts from other countries, who in turn would balance somewhat the ethnocentric tendencies of native observers. There are, naturally, some disadvantages in an independent but common research effort, but given the choices actually available, we feel this would be the best path for international disaster researchers to follow.

CONCLUSION

Some might believe that there is perhaps an ironic bias in this paper. We have approached the problem in terms of our background and experience, as well as of our general understanding of existing knowledge and research in the disaster area. Of course this reflects the possible American bias which we noted in starting the paper. Certainly we have been socialized into Western cultural and societal perceptions and beliefs, including its ways of doing scientific research.

Before considering this too damning, two things should be noted. Our approach, while more explicit, does not appear to be too different from the

issues and questions that are also advanced in our discussions with disaster
researchers around the world and international disaster relief personnel when
the matter of cross-cultural research has been raised with them. In short,
they seem to approach the problem in roughly the same way we do. This possibly
suggests that our viewpoint may not be too ethnocentric. Totally apart from
that, if cross-cultural research is to start, it must start somewhere. We
offer one possibility.

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