UNIVERSITY OF DELAWARE
DISASTER RESEARCH CENTER

PRELIMINARY PAPER #9

DISASTER SUBCULTURES: THE CULTURAL
RESIDUES OF COMMUNITY DISASTERS

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6/73

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DISASTER SUBCULTURES:

THE CULTURAL RESIDUES OF COMMUNITY DISASTERS

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Communities throughout the world are subject to the disruptive impacts of a variety of disaster agents. From a sociological perspective, the impact of a flood, hurricane, tornado, earthquake, or some other agent may be considered as a disaster when the agent presents demands and threats to a community which cannot be met by the institutionalized means that are utilized for its normal emergencies. When disaster strikes, a community must replace its routine social system with alternative activities and forms of organization that are more appropriate to the disaster context. Typically, much of the activity and organization which are utilized by the community in responding to the disaster emerge during the actual stress of the disaster situation. Often, however, the shape of disaster response depends in part upon a community's past experience with similar events. That is, previous community disaster activity provides some residue of learning which is applied to subsequent situations. When these residues are preserved, we can speak of a community possessing a "disaster subculture." Preservation, therefore, is the essence of a disaster subculture. On the one hand, the residues of learning are applied to aid in the community's survival. On the other hand, the subculture itself is preserved through time by the transmission of its elements to new community members. The true indication of the existence of a disaster subculture, therefore, is the perpetuation of successful patterns of adaptation to the disaster context through socialization. These subcultures appear to develop in many communities that experience repetitive impact from specific disaster agents.

Moore (1964) was the first to develop this concept to indicate a set of cultural defenses which are developed to cope with recurrent dangers. He proposed that a disaster culture included "those adjustments, actual and potential, social, psychological, and physical, which are used by residents of such areas to cope with disasters which have struck or which tradition indicates may strike in the future" (p. 195). In general, Moore has offered that a disaster subculture serves as a blueprint for residents' behavior before, during, and after the impact of a disaster agent. It includes such cultural elements as norms, values, beliefs, knowledge, technology, and legends that take specific disaster subcultural forms. The valuative elements in the subculture tend to define what is important in the disaster situation by defining priorities for disaster activity. Normative elements include such factors as prescription on how the threat is to be preceived, what individual action is to take place in specified conditions, and how residents are to generally respond to the disaster. Beliefs vary widely. On the one hand, they may involve the notion that certain areas are immune to particular kinds of danger, or the cultivation of certain types of attitudes representing "defiance of nature" and "community self-sufficiency." On the other hand, beliefs about the casual factors in a disaster, or attitudes mirroring an acceptance of fate or resignation may develop. Furthermore, within the subculture, legends of the exploits of others in past disasters and myths about various aspects of the disaster experience are likely to develop. Also, the subculture usually includes knowledge of such factors as how warning cues are to be interpreted, the potential destructiveness of various disaster agents, and the efficacy of particular types of action. Finally, with respect to technology, sophisticated methods of detection and warning may be present. Physical safeguards including levees and other tools to lessen the impact of the disaster agent may exist (e.g., hooks on the ceiling to hang furniture in flood conditions, taped plywood covers for windows, homes constructed on stilts, the prior designation and stocking of shelters, etc.).

Other writers have subsequently theoretically refined and/or utilized the concept in empirical applications (W. Anderson, 1965; J. Anderson, 1968; Dynes, 1970; and Wenger, 1972). In so doing they have indicated cultural residues of disaster beyond those described by Moore. They have raised research problems about the range and dimensions of variation of disaster subcultures. The Disaster Research Center has continued research to identify these characteristics, explore their interrelationships, and seek the conditions under which they arise. By the use of structured interview techniques and the analysis of secondary data, the Center has examined disaster subcultures in New Orleans (Louisiana), Cincinnati, Marietta, and Circleville (Ohio), La Crosse (Wisconsin), Mankato and North Mankato (Minnesota). Case by case analysis and comparison of this data, in addition to elements from the previously cited literature, suggest a number of extensions of current conceptions of disaster subcultures. Our analyses will begin by identifying the conceptual dimensions necessary for comparing and contrasting types of disaster subcultures. We will show the comparative, empirical utility of these dimensions. Second, we will present certain ideas relevant to the conditions for development of disaster subcultures and the sequence of development which is suggested by our data. Third, we will describe some consequences of disaster subcultures for individual, organizational, and community response in disasters. Finally, we will explore some theoretical linkages to other substantive areas with related and complimentary research questions.

VARIATIONS IN DISASTER SUBCULTURES

Research subsequent to Moore's suggests that disaster subcultures diverge from each other along at least four dimensions. First, subcultures vary in the extent to which their elements are manifest in the non-disaster routines of the community. Second, they vary in the degree to which they are guides to the disaster behavior of organizations as well as individuals. Third, they differ in that some incorporate not only instrumental behavior elements, but expressive elements as well. Finally, disaster subcultures differ in their scope. Together these dimensions help to describe variations among disaster subcultures which may have disparate antecedents and consequences.

Most of the subcultural patterns described by Moore are latent; that is, they are appropriate guides to behavior only during the actual approach, duration, or immediate aftermath of the disaster impact. As such, they represent cultural traits relatively discontinuous from those of the central institutions of the community or society. In these cases, disaster subcultures are special arrangements that are kept apart from the general culture of the community.

In other cases, however, subcultural traits evolving from disaster experiences are more fully integrated into the main body of non-disaster culture. In these cases, the subcultural elements are manifest aspects of community life. One way in which this manifestation occurs is described by Jon Anderson (1968). He describes the process of "normalization" by which disaster experiences are integrated into the familiar manifest culture of the community. In an extreme case,

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such as Yap (Schneider, 1957), disaster cultural traits are almost totally inte-
grated into the community's or society's culture. Anderson analyzes all cultural
consequences of disaster in terms of their "normalization." However, it is quite
clear that Yap is an unusual case. Most cultural residues left by disaster expe-
riences are special arrangements. They are latent in non-disaster situations,
rather than manifest elements of various institutions, such as the political,
economic, and religious sectors of the community.

Disaster subcultural traits, however, can also become manifest when shared
disaster experience comes to be a salient reference point by which residents
identify their relationships with each other and with their community. At times
the subcultural elements become part of the essence of the community and its
residents' way of life. In effect a defining characteristic of the community is
that it is a "flood town." Newcomers and visitors to the community soon will be
informed that "we get floods. . .they're pretty tough, but we're use to them! I
guess its what we are noted for!" This level of saliency can be observed in cer-
tain communities in the United States, such as Marietta, Ohio.

Most of the disaster subcultural traits appearing in the United States,
however, appear to be latent. Exceptions to this pattern are most often to be
found in highly differentiated, "cultural" components of very small, specialized
disaster-readiness organizations such as civil defense agencies. Such small,
formal offices, and occasional roles like "disaster coordinator" appended to the
administrative structures in organizations such as hospitals or utility companies,
are the usual extent of manifest cultural residues of disaster in American com-
munities. Variations, however, have been noted, and it is possible to compare the
extent to which subcultures in various communities are manifest or latent.

A second dimension of variation among disaster subcultures concerns the
extent to which the cultural elements apply en masse to individuals as contrasted
to their more specialized application to the community's organizations. On the
one hand, disaster subcultures vary in the extent to which the various elements
apply to the general population. Variation on this individualistic dimension can
range from a community in which the valuative, normative, attitudinal, and tech-
nological elements are salient and widespread, to a community where the cultural
elements having individual consequences are not widely dispersed. Where devel-
opment along this dimension has occurred, the public has knowledge about the nature
of the disaster agent and can correctly interpret warning cues; has development
techniques for response (e.g., sandbagging of homes); and often has institution-
alized sets of norms and values for interpreting the event. Subcultures, as
described by Moore, generally exhibited this pattern.

William Anderson (1965) discovered the organizational counterpart to this
dimension. He observed that the subcultural patterns of Cincinnati's adaptation
to repeated flood threats basically exist within several disaster-relevant organi-
zations in the community. Organizational experience in coping with the demands of
a particular disaster agent builds up a typical pattern of organizational response.
That is, a particular segment of the exigencies periodically presented to the
community by disasters becomes the disaster domain of each relevant organization.

In effect, a new, non-routine set of tasks and jurisdictional limits on how, where, and when they can be applied may be defined by the subculture. These tasks may be organized into a latent division of labor to be implemented by a non-routine system of techniques. Therefore, we can add patterns of intraorganizational and interorganizational response to our list of disaster subcultural elements.

There is great diversity among communities on these individual-organizational dimensions. In some communities resources are available for response, plans exist that coordinate and direct organizational activity, and response technologies are a part of the resources of emergency relevant organizations. These elements, however, may not be known to the public. In effect, the disaster subculture is confined within the formal organizational structure of the community. On the other hand, the subcultural elements may exist totally apart from formal organizations within the general public. This latter pattern would appear to be common in rural, isolated areas and in societies that have alternative social structures to those of modern, western society. While it is logically possible for these dimensions to be independent, in the United States development along the organizational dimension alone, or in consort with development along the individual dimensions, is the typical pattern. It is rare to find a community in the United States with a totally individualistic disaster subculture and no formal organizational patterns for response.

A third dimension of variation concerns the nature of the traits included in the particular subculture in relation to the demands of the disaster agent. An examination of the cultural components shows that some are of an instrumental nature while others are expressive. The instrumental traits include those normative, technological, valuative, knowledge, and resource components that are related to preventing, predicting, controlling, and responding to the physical impact of of the disaster agent. These residues of learning are concerned with and applied directly to the problem of protecting the community from the physical effects of the disaster agent and thus insuring its survival. These traits often include sophisticated measures for detecting possible threats (e.g., early flood warnings based on upstream precipitation and temperature) and elaborate public and organizational warning systems. Techniques and resources are often available for use prior to the impact either to lessen the actual impact of the agent or to limit its consequences. Mobilization of human and material resources, evacuation procedures, diking operations, and other measures may be included. After the impact a retinue of techniques and resources may be utilized to ameliorate such problems as search and rescue, casualty care, and welfare provisions. Literally pages of examples of instrumental elements could be given. They run the gamut from flooding basements with clean water prior to inundation from a flood to the establishment and maintenance of shelters.

Other elements, however, are of an expressive nature. These traits often include norms, values, beliefs, legends, and myths about disaster and the nature of the relationship between the focal agent and the community. These elements define how the agent is to be perceived. Such definitions may vary from those labelled as "disasters" to those perceived as "nuisances," to those that provide the community with a time for "carnival." Beliefs about the cause of the agent

may be present and can vary from seeing it as a wrathful act from God or a nuisance from late, spring thaws. They often include beliefs about the severity of the agent, the nature of its impact, the invulnerability of certain areas, and the impregnancy and resourcefulness of the community. Myths and legends develop and chronicle past disaster experience. Community identity and solidarity are often maintained throughout the disaster period by these expressive elements. The exact nature of the elements obviously varies greatly. In general, however, they give the disaster social meaning for the community.

Subcultures vary in the degree to which instrumental and/or expressive elements are present. It is possible for a subculture to include only one o. these types of elements. The expressive components and their existent meaning elements may predominate in certain cultures, such as Yap (Schneider, 1957). In societies that ontologically view man as a passive agent who is unable to control nature the instrumental elements are likely to show little improvement. On the other hand in activist societies the instrumental elements are likely to be present. Within the United States the instrumental elements are always present to some degree within disaster subcultures. The expressive elements can be found in varying degrees of development. In certain larger cities they show miniscule development or are limited only to organizational or individual segments of the community of very narrow scope. In other subcultures, however, both of the types are evidenced,

Finally, disaster subcultures differ in their scope. When we talk of the "scope" of a disaster subculture, we are referring to the extensiveness of the boundaries surrounding the system in which the subculture is located. Certain subcultures have a very narrow scope. In these communities, the subculture may be limited to flood plain areas, low lying districts, or island neighborhoods. Wheeling Island in the Ohio River and French Island near La Crosse, Wisconsin have residues of disaster experience that are a part of their subcultures. These subcultures are extensive, but limited to areas that experience recurrent threats. In other communities, however, the subculture can be classifies as having broad scope. The boundaries of the subculture extend throughout the community.

In an attempt to illustrate the comparative utility of these dimensions, let us describe and classify the subcultures of various communities in the United States. These communities have been studied by the Disaster Research Center. While quantitative measurement of these dimensions has yet to be achieved, the data collected by the Center does allow us to classify these communities in general terms.

Marietta has the most fully developed disaster subculture in our sample. This relatively small and isolated community has a broad scoped, manifest disaster subculture. Recurrent flooding has been a way of life in Marietta for over a century. The business district is located on the flood plain of the Ohio and Muskingum rivers. Flooding occurs almost annually and particularly devastating floods have crested in 1913, 1936, 1937, 1943, 1959, 1964, and 1969. The disaster subculture is a manifest aspect of life in Marietta. Local residents refer to their community -- with some pride -- as a "flood town." High water marks are posted in the community. A published list of the bench marks for the city can be obtained in stores and hotels. In addition, other methods for socializing newcomers

into the disaster subculture include flood seminars and neighborly efforts to inform the new residents about "proper" normative flood behavior. The subculture is rather highly developed along both the individual and organizational dimensions. Technologically, the organizations in the community have developed complex plans and procedures for response. The Army Corps of Engineers and media sources have routinized warning procedures. In addition, local business enterprises have developed elaborate plans for moving their stock "up the hill" and storing it along with the other citizens' possessions in the facilities of Marietta College. Certain banks have flood doors in their basements and vaults. Clean water is pumped into these areas prior to the flood to equalize pressure and lessen the problems of clean-up caused by dirty flood water. The local utilities have instituted procedures for cutting off service to flooded areas. Local emergency organizations, such as Civil Defense and the Red Cross, have supplies of flood relevant resources, shelter supplies, and equipment. In addition, the individuals in the community also hold to residues of learning from previous floods. Many have rather sophisticated knowledge of crest levels and ameliorative techniques. Provisions for evacuation are often developed by individuals and neighborhood groups.

Both manifest and latent instrumental and expressive elements exist within both the organizational and individual sectors of the community. We have previously noted many of the instrumental components. The expressive components are equally extensive. Attitudinally, the floods are viewed as nuisances at worst, and as carnivals at best, as "everyone pitches in to fight the flood." An attitude of defiance or contempt can be noted. Some individuals attempt to "defy" the river by failing to evacuate. The folk lore of the community is replete with legends of past floods. Certain local individuals, such as a retired riverboat captain who predicts flood crests, have become famous because of their flood related activities. Finally, due to the severity of the impact and the extensiveness of requisite response, the disaster subculture in Marietta is broad scoped. In sum, Marietta represents an example of a very complex, highly developed disaster subculture.

In contrast to Marietta, the flood subculture of Cincinnati is basically composed of latent, instrumental elements that exist within both the individual and organizational sectors of the community. However, the subculture is predominately an organizational one. Such emergency-relevant organizations as the Public Works, the Police Department and Red Cross have sufficiently trained manpower, institutionalized patterns for interorganizational response, and established intraorganizational methods for responding to periodic flooding. The elements are predominantly instrumental. Furthermore, they are latent; i.e., they are brought forth at the time of disaster. Complex organizational flood plans, advanced flood control technologies, established procedures for mobilization of human and material resources, and a developed interorganizational warning system are major elements of the subculture. Within the set of emergency-relevant organizations in the community, the subculture is broad scoped. In addition, there appears to be some development of latent, instrumental elements within a narrow scope of the individual sector of the community. Certain areas along the flood plain of the Ohio River appear to include the individualistic counterparts to the

massive organizational subculture in the community as a whole. The essence of Cincinnati's subculture, however, are the latent, instrumental patterns within the organizational sector of the community. As compared with Marietta, it has fewer expressive, manifest, elements within either sector. Finally, it is not as broad scoped as the subculture in the smaller community.

The hurricane subculture in New Orleans in someways is similar to the flood subculture in Cincinnati. Rather extensive development of instrumental elements can be noted within the organizational sector of the community. These elements are basically latent, however, some manifest traits exist within certain organizations, such as the Red Cross and news media. Latent, instrumental elements are diffused among individuals to a much greater extent than in Cincinnati. Many individuals, for example, have developed excellent skills in tracking and predicting the point of impact of hurricanes. The expressive elements are not as extensive as the instrumental traits, however, certain manifest, expressive components are evident. (For example, a popular mixed drink in New Orleans is termed a "hurricane.") Because f the vulnerability of the entire community, New Orleans' subculture is of greater scope than Cincinnati's, expecially on the individualistic dimension.

Near the confluence of the Minnesota and Blue Earth rivers in Minnesota are the communities of Mankato and North Mankato. Both of these communities contain disaster sbbcultures and were involved in perhaps the most massive flood preparation ever undertaken within the United States during the spring of 1969. In Mankato, the subculture is composed primarily of latent, instrumental elements existent within the set of emergency-relevant organizations in the community. Within this sector, it is fairly broad scoped. Within the individual sector there is moderate development of latent instrumental elements within a narrow scoped area on the flood plain of the Minnesota River. Therefore, the flood subculture in Mankato is very similar in nature to that in Cincinnati. The manifest, expressive elements found in Marietta are not in existence.

North Mankato, however, has a subculture that is more complex than its neighboring city. Its nature may be best shown by briefly describing the 1969 flood fight. As early as January, the Minneapolis Weather Bureau began predicting that record floods would occur in the upper Mississippi and Minnesota River basins during the spring. For the past two decades communities such as North Mankato have experienced recurrent flooding. With the initial warning massive flood preparations began. Large-scale diking operations were undertaken in the Minnesota cities at a cost in excess of $400,000. In North Mankato the city council authorized allocation of funds for diking in excess of the year's entire city budget! Community-wide and organizational flood plans were revised and activated. Local organizations contacted outside agencies and instituted plans for securing needed equipment for the forthcoming "flood fight." News of the approaching floods appeared on the front page of the newspaper for a period of two months. In most cases, flood preparation was undertaken by the city government, its agencies, and other community emergency organizations. However in North Mankato, a community that lies over 90 percent in the flood plain of the Minnesota River, public meetings, flood preparation seminars, and a large number of volunteers were also utilized. The "flood fight" was successful. Although the rivers fell just short of record heights, the community was prepared for flooding in excess of that which occurred.

Thus, the subculture in North Mankato evidenced the extensive development of latent instrumental elements within both the individual and organizational sectors of the community. A complex flood plan exists for the community. It delegates authority for various disaster tasks to local organizations and established patterns for coordinating and controlling interorganizational activity. In addition, extensive instrumental knowledge exists within the individual sector. Many individuals in North Mankato are expert in problems such as diking, sand boils, and evacuation. Furthermore, the subculture has an extremely broad scope; it includes the entire community. Latent expressive elements within the individual sectors of the community are also evident, however, they are not as extensively developed as their instrumental counterparts. In sum, the flood subculture in North Mankato is more complex than that in Mankato. The major difference between the subcultures in Marietta and North Mankato is that manifest expressive elements are not as extensive or widely diffused in the latter.

The disaster subcultural elements in La Crosse, Wisconsin are of a different nature than those we have previously discussed. Certain areas of La Crosse are subject to recurrent flooding from the Mississippi River. Within the organizational sector of the community there is moderate development of latent instrumental elements. Past disaster experience has left a legacy of plans and routinized procedures for the operation of organizations such as the police and Red Cross. These plans are not as extensive or complex, however, as those in the other communities we have been considering. However, extensive manifest and latent expressive and instrumental elements can be found in the narrow scoped subcultures of the flood plain and island areas such as French Island in the Mississippi River. These elements basically exist within the individual sector of the community. Homes are built on stilts in certain locations. Individuals on the island have periodically waged "one man wars" against the river by diking their homes. Some of these past battles have become legendary in the community. In effect a deeply rooted, but narrow scoped subculture exists in a small segment of the community.

Finally, these American communities can be contrasted with the subculture on Yap (Schneider, 1958 and J. Anderson, 1968). Subcultural elements have developed in Yap in relation to typhoons. The basic nature of the subculture is that it is composed of complex manifest, expressive elements within the individual sector. The Yaps view typhoons as being symptomatic of community conflict. They are believed to have divine causes, and function as forms of punishment. Resignation highlights the citizens' preparations and response. Some instrumental elements do exist. In addition to moving boats to higher ground, prayer for supernatural intervention and protection from ancestral spirits is offered. In general, however, they await the storm, resigned to its coming, and observant of its symbolic meaning for local life (J. Anderson: 303).

In addition to these American flood communities, other disaster subcultures, such as those found along the Mississippi Gulf Coast, could also be classified on these four dimensions of variation. We have offered this comparison of flood subcultures basically to illustrate the heuristic value of the dimensions. Further effort must be given to refining operational indicators of these dimensions. At this time, let us briefly consider conditions that are relevant to the development of disaster subcultures and the sequence of development which is suggested by our empirical examination of American flood communities.

THE DEVELOPMENT OF DISASTER SUBCULTURES

In considering factors that facilitate the development of a disaster sub-
culture within a community, three factors appear to be of crucial importance.
First, the community must have experienced repetitive disaster impacts. In addi-
tion, the possibility of future impacts from the same agent must be viewed as a
recurrent threat to the community. The residues of learning that represent the
elements of the disaster subculture are based upon past experience. At this time
it is not possible to specify the exact number of impacts that are necessary in
order to provide the requisite storehouse of experience upon which the subculture
is based. A single prior impact may be adequate if the community perceives that
future impacts are likely. If future impacts are not viewed as probable or
possible, the subculture is not likely to develop. These are necessary factors.
Neither past experience nor future threat, however, are sufficient conditions for
development.

Second, the development of a disaster subculture appears to be facilitated
if the focal agent allows for some period of forewarning. With the possible
exception of certain locales that experience mine disasters, explosions, and the
like, most disaster subcultures tend to develop around focal agents that allow for
at least a moderate degree of warning, e.g., floods, hurricanes, blizzards,
tornados, etc. The period of forewarning, in effect, allows the community to
"control" the impact of the agent by instituting instrumental planned and routin-
ized measures to lessen the consequences of the impact. Although this factor
does not appear to be a necessary condition for development, forewarning does
facilitate the process. Not only is predictability increased for the community,
but the warning period allows for the implementation of elaborate instrumental
activities which can protect the community.

Third, the existence of consequential damage that is salient to various
segments of the community also appears to be a facilitative factor. All disaster
agents create some degree of damage to human and/or material resources. However
if conditions either lower the extent of destruction or the saliency of the dev-
astation, the development of a disaster subculture is less likely. Geography and
physical factors obviously are important. If the agent impacts areas of sparse
population density or underdeveloped land the consequences of the impact may seem
unimportant. Social factors, however, may also influence the level of saliency.
For example, it appears that the development of disaster subcultures is facilitated
when the impact and subsequent damage cut across class and status lines in the
community. When individuals from various status levels of the community are
affected by the agent, vital sources of power and interest are activated which
aid in the development of subcultural elements. In addition, the scope of the
subculture appears to be related to these dimensions. In sum, one can expect a
subculture to develop within a community that has experienced repetitive impacts
from a disaster agent that allows a period of forewarning, results in diffuse
damage that cuts across class and status lines in the community, produces con-
sequential damage to the human and material resources of the community, and is
perceived as posing a continuing threat.

The absence of certain of these factors may be helpful in understanding why a subculture does not develop in a community that experiences periodic disaster impacts. Circleville, Ohio has experienced flooding in the past. The community, however, exhibits few, if any, subcultural traits. Neither instrumental nor expressive elements are highly developed or extensively distributed throughout the community. Three factors might be partially responsible for this lack of development. First, floods in Circleville are of a "flash flood" variety. They involve little, if any, warning and allow little preparation prior to impact. Such a situation does not facilitate the development of elaborate, instrumental, routinized patterns of response. Second, the floods affect a limited geographical area of the community. As opposed to the situation in Marietta and other subculture sommunities, the downtown business district is not seriously threatened. Third, the floods do not cut across class and status lines. The residents of the flood plain tend to be of a lower socioeconomic class position; the poorer residents of the community tend to experience the flood. As a result the development of a community wide flood subculture is complicated.

Our previous descriptions of American disaster subcultures indicate that they vary in their degrees of development and complexity. For example, Marietta has the most fully developed disaster subculture in our sample. Cincinnati and New Orleans are developed organizational, instrumental cultures, however, expressive elements are not as evident. The subcultures in Mankato and La Crosse are not developed on numerous dimensions. In searching for factors that influence the patterns of development, the degree of disaster experience and the size and complexity of the community system appear to be important.

Let us first consider the question of experience. As noted, Marietta's subculture shows extensive development along all of the major variables. Both manifest and latent instrumental and expressive elements exist within both the individual and organizational sectors. The subculture is broad scoped. Recurrent flooding has been a way of life in Marietta for over a century. In Mankato and North Mankato, however, serious, recurrent flooding is a more recent phenomenon. In the former city, for example, four of the five worst floods in history, have occurred since 1951. Within the past decade these communities have developed rather elaborate instrumental elements. In Mankato they are basically limited to latent phenomena within the organizational sector in the community. In North Mankato they are also diffused throughout the individual sector. These communities have yet to develop, however, extensive expressive elements. While they are similar to Marietta in size and autonomy, they have yet to develop complex sets of valuative, normative, legendary, and mythical traits. However, such elements do appear to be developing in North Mankato with its extremely broad scoped subculture.

With respect to general development, these findings may indicate a tendency for the expressive elements to "lag" behind the instrumental elements. Due to the practical, severe demands placed upon the community by the disaster agent, it is of paramount importance to the survival of the community that instrumental elements be developed. In small communities these elements would appear to develop concurrently within both the individual and organizational sectors of the community. However, development within the latter, due to its repertoire of

human and material resources, is likely to precede development within the former sector. Through time and disaster experience, the residue of learning of an expressive nature may be expected to develop. As chronicles of disaster experience legends, beliefs, and myths develop only on the basis of prior behavior. In effect, a form of "cultural lag" may be expected to occur in the development of disaster subcultures. The technological and resource skills needed for instrumental response develop first, followed by those expressive elements that attempt to give the disaster event social meaning for those in the community.

The size and complexity of the community system, however, appear to be important contextual variables influencing the scope and developmental pattern of disaster subcultures. In the larger cities in our sample, the subcuultres are basically composed of instrumental, organizational elements that are latent within the rather narrow scoped subcultures. Cincinnati and New Orleans both possess elaborate organizational-instrumental subcultures. The development and diffusion of complex expressive elements may be complicated in large, complex community systems. In addition, the diffusion of either type of element throughout the individual sector may be hindered by large size. Only in rather isolated, rural areas, or areas with few organizations having emergency responsibilities within their domains, can one expect to find development of instrumental and/or expressive elements only within the individual sector. French Island in the Mississippi River may indicate such a community.

In sum, we have presented a few observations on factors that would appear to facilitate the development of disaster subcultures. In addition, we have noted a general tendency for instrumental elements within the organizational sector of the community to develop prior to expressive elements. These observations are offered as heuristic notions for further research. At this time, let us turn to a discussion of the social consequences of disaster subcultures.

SOME CONSEQUENCES OF DISASTER SUBCULTURES

The most direct consequence of disaster subcultures is to lessen the ambiguity and difficulty in coordinating disaster response. Once developed, such subcultures may facilitate community response to subsequent disasters. Appropriate actions are already mapped out for the community by developed and previously implemented disaster. Fewer necessary adaptations to the disaster context have to emerge during the emergency period. The consequences of a reliance upon subcultural patterns to guide disaster response are, therefore, often welcome. People and organizations, knowing what to expect and what is expected of them, can act immediately and directly. These consequences have been often noted. At this time, however, we would like to specifically examine three aspects of disaster subcultural consequences that have not been described previously. First, we shall note that disaster subcultures may be mixed blessings. They may actually thwart community response to a disaster if the nature and intensity or the types of demands it presents, fall outside past patterns of community experience. Second, we shall examine the consequences of disaster subcultures for social solidarity within the community. Finally, a possible effect of subcultures upon social change processes will be noted.

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In order to fully understand the possible consequences of disaster subcultures for effective community response, it must be noted that communities tend to specialize in their disasters. Their subcultures tend to be keyed to a specific type of disaster agent. Faced with repetitive experience with different disaster agents, certain communities become "flood cities," while others represent "hurricane communities." This specialization facilitates response to the problems posed by a specific agent. It is fine if past experience is repeated. The nature and intensity of disaster agents, however, varies greatly. Therefore, disaster subcultures may not facilitate response when the character and severity of the specific problems created by disaster agents do not fall within the parameters of their specialized elements.

There are three situations that are likely to give rise to such an incongruency between subcultural elements and disaster problems. First, the community may be struck by a different agent. A flood subculture does not protect a community from being hit by a tornado. In these situations, the differing agent often presents problems for which the subculture does not have patterned or institutionalized mechanisms for response. Norms that are operative in certain subcultures may be inappropriate or irrelevant when the nature of the disaster differs. Material resources, knowledge, and technical skills that facilitate response to floods may be of little assistance in thwarting the effect of an earthquake. In general, therefore, in these situations the subculture is not likely to be effective. However, even in these incongruent situations, the disaster subculture may still have significant, though often subtle, facilitative effects. While specific knowledge, skills, norms, and resources may be inappropriate or irrelevant in the situation, the residues of learning often involve previously established and institutionalized patterns of interorganizational relationships, authority distribution, communication channels, and other elements of patterned activity that can facilitate becoming organized to meet the specific demands at hand.

Second, in some disasters the disaster agent spawns "secondary impacts." Hurricanes may be followed by floods. Tsunamis and fires are often created by earthquakes. In some instances a community may be struck by numerous additional agents while it is actively involved in the emergency period resulting from the initial impact. The consequences of a specialized disaster subculture are likely to be less facilitative of effective response when secondary impacts occur. In fact, due to the narrowness of its specialized methods of response, the subculture may prove to be a detriment in instances of non-focal, secondary impact.

New Orleans presents an example of this situation. New Orleans is a "hurricane city." In 1965 the city adequately coped with the severe impact of Hurricane Betsy. The threat was great, but people knew hurricanes and how to meet them. Buildings were battened against intense winds and rain. People were safe in adequate short-term shelters. Organizations were well prepared to react to damage and disruptions which could not be avoided. The hurricane subculture worked.

However, the hurricane spawned floods. They were the true disaster. Waters breeched the low-lying city's levees. The flooding demanded responses not provided

for by the subculture. Many New Orleans emergency organizations, therefore, were simply ill prepared for the configuration of problems presented by floods. Shelters ideal for brief protection from winds and rain were not designed for extended care of those displaced by floods. Precious equipment, sheltered from hurricane damage in low places, was lost. Health organizations encountered unanticipated health problems. Suddenly, new measures were needed to provide pure water, dispose of human wastes, and to protect against epidemic. Throughout the city, people and organizations were faced with difficulties which demanded the emergence of new solutions.

Third, certain elements of disaster subcultures may be detrimental even in response to the focal agent to which the subculture is sensitized. Specifically, problems arise when certain institutionalized beliefs about the potency of the agent underestimate the threat at hand. Past stages of flooding or intensities of hurricane winds can serve as misleading benchmarks against which to estimate an impending disaster impact. Moore (1964) observes that the success of disaster subcultures in preserving a community through numerous disaster experiences promotes a defiant attitude on the part of people toward the destructive force. In effect, the community has met the disaster agent face-to-face. The community persists, and this persistence "proves" that it was victorious! When another disaster impact exceeds the threats which have been previously surmounted, the attitude of defiance and self-sufficiency can work against survival.

The people of Pass Christian, Mississippi, for example, have experienced many hurricanes and near misses. In 1967, many viewed the approach of Hurricane Camille from the reference point of this experience. A number planned to "ride out the storm." Some who did so were killed, because they failed to evacuate in the face of an impact of greater intensity than Pass Christian had experienced previously. Similar situations occur in many areas prone to flooding. When past flood levels fail as predictors of present impact intensity, then subculturally defined patterns of behavior based on that experience may also fail.

A different type of intensity of impact does not necessarily place a community with a disaster subculture at a disadvantage when compared with one without such a subculture. After all, some of the institutionalized patterns of adaption are undoubtedly still appropriate. This would seem to leave the subculture-supported response as an advantage over a completely emergent one. In many ways this impression is correct. The subculture community is more likely to have standby equipment which is useful. It is more likely to have groups with experience and expertise in meeting disaster problems. As was noted previously, as compared with a community without a subculture, there should be fewer problems existent requiring emergent solutions. However, there is one important way in which even these fewer problems may present a special sort of difficulty for a community accustomed to basing its disaster responses on subcultural patterns.

The difficulty is this: the disaster subculture community tends to approach disaster without a definition of crisis. This condition was evident in the above examples. The absence of a shared (i.e., social) labelling of disaster impact as crisis removes an important condition that facilitates requisite emergent

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solutions. The very uncertainty and perception of danger embodied in a social definition of crisis has at least three consequences which promote emergent organized responses to meet disaster problems. First, there is a suspension of many of the routine social patterns and activities of the community. This suspension frees a reservoir of individuals, groups and resources to be reallocated for disaster demands. Second, in addition to merely freeing material, human, and organizational resources, a definition of crisis causes a broad segment of the community to be in readiness to response to disaster demands. Third, under a social definition of crisis, a narrow, but significant segment of the community's individuals and organizations actively, sometimes almost agressively, search out and assume disaster tasks.

These three consequences of crisis definition may lead to duplication of efforts and even competition for specific organizational domains. However, they also promote emergent, organized efforts to meet disaster problems. Furthermore, the suspension of routine social patterns under a social definition of crisis tends to remove an inapplicable system of social norms -- conventional, administrative, and even legal -- which may encumber direct attacks on disaster problems. These social concomitants of a definition of crisis tend to insure that most disaster problems are attended by some efforts. Therefore, to the extent that disaster subcultures reduce or delay the development of a definition of crisis, they may debilitate a community's response to a disaster impact that exceeds the experience upon which the subcultural patterns have developed. In sum, the consequences of disaster subcultures for effective response are both facilitative and debilitative. The nature of the consequences depend upon the nature, intensity, and definition of the event in light of the residues of learning from previous disasters.

A second as yet undiscussed consequences of some disaster subcultures is a special mechanism for sustaining communities through disaster until the major features of the predisaster social order are reestablished. As noted by Moore (1964) and others, disaster subcultures aid community survival by institutionalizing patterns of action that are successful in avoiding, mitigating, or rectifying the physical impact of a disaster agent. The survival of a community, however, implies more than this form of response. It means that the social solidarity of the community has been sustained throughout the disaster onslaught. Some disaster subcultures include patterns of behavior appropriate for maintaining solidarity while the community's normal division of labor is disrupted. Following an analysis of such transitional states presented by Turner (1967), this aspect of disaster subcultures can be said to institutionalize a phase of heightened enactment of "mechanical" solidarity.

It is a common observation that members of disaster stricken communities greatly increase their expressions of solidarity among themselves, and at the same time exaggerate their rejection of outsiders. Turner (1967) has analyzed this tendency in terms of Durkheim's discussion of two types of solidarity which may bind elements of a community together. There are "mechanical" solidarity, based on sharing of like sentiments, and "organic" solidarity, based on complimentary interdependence among disparate orientations and activities. Turner

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interprets the expressions of group solidarity and hostility to outsiders as indications that a period of heightened <u>enactment</u> of mechanical solidarity is a necessary factor for the reestablishment of the organic solidarity interrupted by the disaster.

To adopt slightly different language for a moment, we can see that both "instrumental" and "expressive" activities play important roles in preserving a disaster-struck community. The instrumental behavior substitutes for the community's predisaster division of labor. The expressive activity sustains the community's solidarity until the organic solidarity of the division of labor can be reconstituted. Just as disaster subcultures preserve patterns of fruitful instrumental behavior, so do some of them include cultural patterns for expressive behavior. Thus, in some communities familiar disaster impacts traditionally evoke community celebration. Far from the somber response that might be anticipated, such communities seem to enjoy their disasters. The disasters become a central element in the identification of members with their community. The expressions of celebration exaggerate the shared sentiments of community members. Therefore, a second addition to the consequences of disaster subcultures is the provision of institutionalized means of the heightened enactment of mechanical solidarity, while the community's organic solidarity is disrupted.

We can also suggest a third unexamined consequence of disaster subcultures. There is some evidence that disaster subcultures enhance the likelihood of social change in disaster-relevant organizations as a consequence of a disaster response experience in responding to disasters. The Disaster Research Center has completed three somewhat cumulative studies of organizational change in four cities following major natural disasters. (W. Anderson, 1969; Adams, et al., 1970; and Weller, 1972.) In a study of seventy-three organizations, low levels of change in organizational preparation for future disasters were generally found. This lack of change was not because organizations experienced no difficulties in their disaster response. On the contrary, most experienced severe difficulties in effectively adjusting to the disaster context. These experiences, furthermore, were not forgotten. Almost all of the seventy-three organizations learned a great deal about general difficulties inherent in disaster response, as well as many specific shortcomings of their own response patterns.

Despite this "organizational learning" (W. Anderson, 1969), the pattern of low levels of organizational change was found in all of the cities except New Orleans following Hurricane Betsy. It evidenced a clear pattern of greater organizational change. More organizations changed, and the average number of changes per organization was greater. In addition, the changes which did occur were qualitatively more significant; that is, they modified organizations to a greater degree. A number of interpretations of this pattern of greater change in New Orleans might be suggested. Weller (1972), however, concludes that factors related to New Orleans' disaster subculture promoted greater changes than in the other three cities. An element of the disaster subculture in New Orleans was the normative expectation that organizations with disaster relevant resources would in fact respond to the disaster event. The subculture provided a community context in which organizations had to legitimate themselves not only through their routine activities, but also through their disaster preparedness. Furthermore, each

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individual organization was not left to its own devices in working out innovations to improve future response. An episode of community-level evaluation and planning identified serious problems and allocated the responsibility for their solution to specific organizations. This process reaffirmed the normative requirement for preparedness, and provided specific content to the subcultural expectations which the organizations held for each other.

As we have noted previously, Hurricane Betsy was accompanied by complications from the secondary impact of a flood. The demands it presented were different from those for which provisions were made in the hurricane subculture. These differences were of a sufficient magnitude to provide ample opportunity for organizational learning of shortcomings in preparedness. This learning, however, cannot account for the greater levels and significance of organizational change in New Orleans, because the other three cities were even less prepared for disaster response. Organizations in each of these cities had even greater opportunities to learn from their problems. However, this proportionately greater learning was not as successfully translated into organizational preparedness for future disasters. In these other cities, community-wide processes of change tended to channel almost all significant organizational innovations into a few very specialized organizations. Most of the organizations in these communities did not make, and in some cases were actively prevented from making, commitments of effort and resources toward improving their response potential. In the absence of a disaster subculture, disaster preparedness was not seen as a legitimate obligation for all disaster-relevant organizations. These findings suggest that once widespread organizational commitment to disaster preparedness is legitimated by the development of a disaster subculture, organizational change in preparation for future disaster response is facilitated.

SOME SUGGESTIONS FOR FUTURE INVESTIGATION

We have examined the nature, development, and consequences of disaster subcultures. In so doing we have extended and conceptually refined the construct. Further research into these issues is needed. For example, contrasts between types of disaster subcultures centering around focal agents other than hurricanes and floods should be undertaken. In addition, cross-cultural, empirical comparisions definitely are needed. Especially longitudinal studies of the developmental process are necessary for a more complete understanding of the patterns followed by subcultures.

Most certainly it will be fruitful to compare theoretical parallels between disaster subcultures and other special subcultural adaptations. For example, an analysis of disaster subcultures may be helpful in understanding other systems that periodically respond to external attack or whose existence is dependent upon their developing exchange relationships with external agents. Such varied reactive subsystems (Young, 1970) as the State of Israel, Harlem, and skid row would appear to have many elements that are common to the fully developed flood subculture in

Marietta. Furthermore, since disaster subcultures are composed of residues of learning in how to respond to and ameliorate a _specific_ type of calamity, we should determine if there is a general carry-over into the solving of other types of community problems. The implications for the analysis of community problem solving are numerous. Perhaps, the existence of a subculture aids a community in solving such problems as urban renewal and air and water pollution.

We need not only to study the development of disaster subcultures, but also we must examine their demise. When the external threat is removed can one expect that the instrumental residues of learning will dissolve? We anticipate that the expressive elements would persist as a distinctive subcultural element even where instrumental traits fade away. Such an investigation could be undertaken in communities that previously experienced floods, but due to flood control techniques are no longer threatened.

Finally, it is suggested that any empirical examination of subcultures focus upon the process of socialization. As noted in the beginning of this paper, the true indication of the existence of a disaster subculture can be found in the perpetuation of successful patterns of adaptation to disaster contexts by the process of socialization. If subcultures exist, they must be maintained. An examination of recent migrants to the community and new members of emergency relevant organizations should establish a subculture's existence. Such an investigation would not only delineate the process of socialization by which it is maintained but also specify the elements that are considered by the members of the community to be important for the system's survival.

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