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#2

AUTHORITY IN EMERGENCIES:
FOUR TORNADO COMMUNITIES IN 1953

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FORWARD

In the literature on natural disaster, impressionistic descriptions are numerous and available, while analytical studies are rare and generally unavailable to a larger reading public. Among those who are familiar with these analytical studies, an earlier unpublished version of Irving Rosow's monograph has often been cited as significant. Originally prepared for the Disaster Research Group, National Research Council--National Academy of Sciences, the publication of the study was prevented by the termination of the activities of the group. When the Disaster Research Center (DRC) was formed at The Ohio State University in 1963, a monograph series was planned to include the works of others as well as the studies of the Center. It was in this context that we asked Rosow for permission to publish his study. However, unexpected complications prevented the planned publication of the work by DRC until this time. We are now fortunate to be able to include it as one of the initial volumes in the Disaster Research Center Historical and Comparative Disasters Series.

The study provides a unique opportunity to observe the problem of emergency authority in natural disaster. In addition, it provides the opportunity to observe this problem in two different tornadoes, one in Massachusetts and the other in Michigan. While the field work was done in 1953, neither the problem nor the analysis is dated. While the analysis does not incorporate conceptualizations which have emerged since that time, subsequent studies have not added knowledge which would substantially change its direction. The footnoting, however, has been somewhat updated to point to these more recent studies for the reader. Some of the community groups are organized today on a somewhat different basis than they were when the study was done. This is particularly true of local civil defense offices.

In the revision which appears here, we wish to acknowledge the cooperation of Professor Rosow and his patience in awaiting the appearance of his work. Thanks are also due to a number of typists who worked on different drafts, with particular appreciation being extended to those who have typed the final version, Deborah M. Kraus, E. N. Simon, Jackie Tatom, and, especially, H. Harold Fulton.

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PREFACE

Few communities face recurrent natural crises, although some do. In the hurricane belt along the southeastern seaboard, the tornado areas of the southwest and great plains, the flood basins of the great rivers, or the districts with snow avalanches in the Alps, natural catastrophes may be frequent, sometimes seasonal affairs. Emergency skills and procedures have been reduced to a fine art in these areas. The local residents are familiar with crisis-breeding conditions, they know how to prepare for impending disaster, and they know how to cope with the problems that natural calamities leave in their wake. The experience and efficiency of their emergency organizations are impressive, and they keep the human and physical toll of catastrophes minimal.

But what of other communities that are not commonly exposed to such freaks of nature? The average town or city whose only experience with disaster is limited to an occasional newsreel shot on TV? These communities have no experienced disaster organizations because they have no need of them. But sometimes, and in a statistically predictable way, such communities are suddenly engulfed by a natural catastrophe--earthquake, tornado, flood. While they may be freaks of nature, their human toll can be appalling. They are often unusually severe because of the very forces that caused them to erupt so capriciously.

These improbable, unexpected and unfamiliar catastrophes may be devastating. They impose a severe stress on an inexperienced community and test its adaptability to critical circumstances. Many social niceties, pretenses and cliches that grace the community's normal life are rudely thrust aside. The water, so to speak, is wrung out of the system in the face of some compelling and unusually unpleasant facts of life.

Because the community has no appropriate emergency system, it must improvise one out of the normal social material at hand. The process by which this occurs literally becomes a matter of life and death to many people; it has great practical importance for the disaster specialist; it may release fundamental and enduring institutional changes; and it may contain some crucial lessons about community systems that can only be learned in extreme situations.

All community emergencies are not the same. It is not simply a matter of the degree of strain that is involved; the kind of strain is also important. An earthquake and a race riot of equal destructiveness and disruption are not simply equivalent crises to the communities they affect. In social crises, public authorities are called on to mediate power struggles within a community rent asunder, to control conflicting interests, or to limit conflict and govern disputes. They are under constant pressure to act on behalf of one part of the community against another. But in natural catastrophes, these partisan political differences should be minimal. Disasters exert fairly pure

stresses that do not result directly from social strife, ideological controversy, or conflicting interest. Consequently, public authorities can respond to disasters with unusual freedom of action; seldom do they have comparable opportunities or obligations to act with such lack of constraint.

Under these circumstances, how do public authorities actually respond? In the disruption of strange natural disasters, how does an emergency system develop to cope with the devastating problems? Does a division of labor arise that assures effective leadership and is consolidated into a consensual system of authority? Do solidary interests prevail or does the crisis release or even intensify conflicts in the authority system? The present research addresses such basic questions.

This is a study of the emergency authority systems that crystallized in four tornado-stricken communities. The field work was carried out immediately after the disasters in the summer of 1953, and the analysis and original manuscript were completed early in 1955. The research was sponsored by the Disaster Research Group, National Research Council of the National Academy of Sciences, and the work was scheduled for publication shortly after its completion. But, unfortunately, the sponsoring group was terminated before the book could be published.

Publication plans were revived by the Disaster Research Center of The Ohio State University. The original manuscript was slightly condensed and tightened in its organization. And the Disaster Research Center generously assumed the responsibility for inserting appropriate references to relevant studies since 1955. This later work has apparently not dated the original analysis which has more than simple historical interest and remains significant for current theory. I am extremely grateful to Professors Russell Dynes and E. L. Quarantelli, Co-Directors of the Disaster Research Center, for their cooperation in preparing the manuscript for publication when other commitments made it impossible for me to attend to this personally. However, I was able to do the final editorial work myself.

Needless to say, some unwitting errors are almost inevitable in a one-man study of the chaotic aftermath of tornadoes. Informants' partial exposure, incomplete knowledge and conflicting perspectives almost ensure this, and careful cross-checking of facts cannot eliminate all mistakes. The present report is as accurate as possible, but I must assume responsibility for whatever inadvertent errors remain.

Irving Rosow
January 1974

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CHAPTER I

A SCHEMA FOR AUTHORITY IN DISASTER

Authority is often problematic in many aspects of normal community life. Understanding it then becomes important, and the opportunity to understand it is offered by examining those communities that undergo crises which involve problems of authority. This is frequently found in communities that experience disaster. We are not concerned with disaster-hardened communities which have refined emergency systems, but rather those with disasters of freakish or unusual occurrence.

An unfamiliar disaster presents an unclear situation, and people tend to interpret or "structure" unclear situations according to what is familiar to them. This is difficult in disaster precisely because the experience is so unusual and strange. There are no precedents to follow. While there are strong pressures for people to help, the disaster itself does not give clear guides about what to do or how to act. So, without an adequate frame of reference, people may respond directly to the immediate needs which they see before them.

These disasters do not occur in vacuo; they strike established communities with a definite social structure in which different people have different obligations to the community. Public authorities are under special pressure to act decisively because of their heavy responsibility for community safety and welfare. Therefore, we should not expect them to act as randomly as other private citizens, but to take their community role as an initial frame of reference. Two aspects of their normal roles may be significant for disaster:

A. Skills and training which fit them for certain activities better than others.

B. The scope of responsibility and authority which their positions or departments carry.

Skills and Responsibility as a Frame of Reference. In this sense, public authorities and agencies can be divided into three groups, each with different kinds of skills and different ranges of responsibility. These three groups are public officials, police organizations, and specialized public service agencies.

1. Public OFFICIALS. Mayors, governors, city aldermen are political officials. (A) Their skills are largely executive, administrative, and managerial. They are qualified, ideally, to make policy decisions based on overall appraisals of problems and to administer programs which put these policies into action. They do

this by delegating responsibility and coordinating various activity. While they are, in some sense, specialists in organization, their main experience is with political, legal, and governmental affairs. (B) Their responsibility is broad and diffuse rather than specific. They are responsible for community safety and welfare in the most general sense. While immediate operating responsibility may be in the hands of departments or delegated to subordinates, officials are legitimately responsible for the management of all public affairs under their jurisdiction. They can be concerned with anything from a debenture bond issue for new public housing or academic freedom in the public educational system to garbage collection in a tenement block or the rest-room facilities in a local playground. Thus, their responsibilities and authority tend to be flexible and broad rather than specific.

2. POLICE Organizations. Local and state police, sheriffs, and the National Guard are examples of police organizations. (A) Their skills include many fairly routine jobs, such as traffic direction, but they are primarily trained to act with direct initiative in various emergency situations. At any scene of disorder, they must be prepared to take charge, to take decisive physical action and to exercise force if necessary. (B) Their responsibilities are the enforcement of the law and the maintenance of public order, safety, and protection. This responsibility is fairly open and diffuse. Police may be called upon at almost any time or place for a variety of services, from quelling a riot or policing a strike-bound plant to caring for a lost child or rushing a pregnant woman to the delivery room. While their responsibilities are fairly flexible, they are significantly narrower in scope than those of officials. The concrete situations with which they deal consist mainly of various forms of trouble, particularly those which threaten to become disorder if unchecked on the spot.

3. Specialized Service AGENCIES. These include miscellaneous groups concerned with public safety (fire departments, Coast Guard, Civil Defense) or public welfare (welfare departments, Red Cross, Salvation Army) and other technical services (hospitals, public works departments).¹ (A) the skills of these groups are all highly specific and they cover technical specialties of one kind or another. (B) Their responsibilities are confined to the particular public services which they provide. The agencies are not, in their public roles, directly concerned with problems outside their own spheres, nor do their responsibility and authority extend beyond their immediate functions.

Thus, these three levels of public authority vary in the range of their public responsibility, from the broadest jurisdiction of the officials to the most restricted scope of the special agencies. Because authority must be adequate to the discharge of responsibility, the range and kind of authority varies among these three levels. Similarly, the skills also vary among these groups. The officials furnish broad community leadership, the police provide social control, and the agencies render various technical services.

But these different normal roles do not necessarily give clear guides for concrete disaster activity. The emergency itself creates needs which are compelling and specific. Casualties must be extricated and given medical treatment; people who lost their homes must be housed; fires may have to be fought; victims must be fed; crowds must be controlled and property protected. All the disruption of normal life creates many specific needs which require particular services. The skill to be found in the three levels of public servants are not equally useful in tending to the concrete needs, but some are more clearly applicable than others.

Typically, the normal roles with the clearest relevance for disaster are those of the agencies which have the most technical, specific skills. A bacteriologist in the Public Health Department is a qualified judge of unsafe drinking water; a city councilman or a police sergeant is not. Thus, agencies can be expected to take responsibility and furnish leadership in the spheres of their most specialized competence. To this extent, the disaster itself can "select" these public servants as more "appropriate" leaders than others for certain needs. Because normal roles do not have interchangeable crisis value, they offer the basis for an initial division of labor.

Significantly, however, the specialized spheres in which appropriate leadership can be "indicated" by the disaster are the most limited in scope and do not touch on the responsibility for general community order and welfare. The specific, technical services are peripheral to the coordination of overall community effort.

In these larger spheres of disaster control, the police may have somewhat clearer guides to action than higher public officials. The police are trained to go to scenes of disorder and take charge. In a disaster, this should furnish them with some initial guides. The trouble spots which draw them should naturally center on the stricken area, but would also include various community facilities activated by the emergency (hospitals, relief centers, major roads, etc.). But, in contrast, the skills and responsibility of public officials provide only the most tenuous, ambiguous clues to their appropriate disaster action.

Thus, the skills on the three levels of public roles have different value as disaster guides: the officials may be quite unclear about where to go and what to do; the police can be fairly clear about where to go, although they may be quite unclear about what to do before they arrive; the agencies can usually be extremely clear about what to do, although there may be some confusion about where to go (this will vary with the particular kind of service). Thus, those with the greatest community responsibility have the vaguest indication about their proper disaster functions, while those with the narrowest responsibility have the clearest notions of their proper disaster roles.

Leadership and Authority. At this point, we must make a distinction between leadership and authority. Usually they are closely related; people in positions of authority are expected to furnish

leadership. Indeed, capacity for leadership is one of the qualities by which people normally rise to positions of responsibility and authority.

For our purposes, leadership is the ability to plan, organize, and direct the activities of others in order to achieve certain goals. Authority is the acknowledged right, power, or obligation to exercise that leadership and to have directives obeyed. Thus, where leadership refers to personal competence in an organization, authority refers to the legitimate rights and duties of an office or a position.

By this token, normal community roles show a close correspondence between leadership and authority under workaday conditions. People are routinely expected to furnish adequate leadership in spheres which their authority covers. But, according to our analysis, a disaster begins to dissociate the two.

The distinction between leadership and authority has great importance for an understanding of how disasters can be managed. Ultimately it is necessary to know how much actual leadership is furnished by public groups and how effective this is in bringing a disaster under control. To clarify this, we must ask two questions: (1) How does pure and simple leadership (or competence)² in many isolated spheres spontaneously grow into a comprehensive authority system? (2) How is the authority of normal roles actively used to integrate scattered, simple leadership activities into an overall leadership system? In other words, how does normal leadership create emergency authority, or how does normal authority create active emergency leadership? What determines each process? What is the ultimate effect of each process upon the control of disaster?

Inevitability of Conflict. The spontaneous responses to disaster by different public authorities must almost inevitably lead to various kinds of conflicting leadership. There are several reasons for this.

First, as we have seen, the normal community roles give some basis for a rational division of labor in technical services, but only ambiguous guides for field leadership and coordination of the overall emergency mobilization.

Second, in the absence of clear role expectations, the pressures of responsibility force action to be based on many private definitions of appropriate behavior. (Barton 1970; Dynes 1974; Taylor, Zurcher, and Key 1970) Leadership in many spheres may be assumed simultaneously and independently by several groups or officials. Without coordination, the private definitions and independent operation must inevitably lead to conflicting decisions or directives which operate at cross-purposes. Thus, because of disparate perspectives, the leadership has conflicting results even when everybody is privately working toward similar goals.

Third, some conflicts may actually be motivated. The pressure of crisis may release normally controlled antagonism, hostility, or rivalry among authorities. These private vendettas induce disparaging attitudes or conflicting interests which may flare up during disaster and prevent cooperative agreement on common ends, means and a division of labor.

Fourth, the obligation to the community creates such strong pressures to furnish leadership that some groups may actively strive to dominate others. This may have several causes: (A) Some groups may feel responsible for activities which others have undertaken, (B) Some may feel that others are not performing adequately and step in to take charge, and (C) Some may feel the strong need to make their active participation conspicuous or to demonstrate their adequacy to the demands of the situation or to test private programs of mobilization. While these possibilities do not necessarily carry over rivalries from the normal system, they can generate new frictions in the heat of the crisis. And these may result in competitive striving between authorities.

Fifth, there may be strong conflicts between different values. (A) In the integration of activities, some authorities may feel that those with broader responsibility should supervise and coordinate, while others regard these as mechanical processes which can best be handled by "action" rather than "policy" groups or by specialists rather than non-specialists. (B) Further tensions may exist between values of bureaucratic authority on the one hand, and on the other, either (1) humanitarian values focused on immediate human suffering and need, or (2) anti-authoritarian, anti-bureaucratic, anti-organizational attitudes. The humanitarians may want to plunge directly in and help without any delay or distraction from organizational considerations and the integration of operations. Others may use the disruption of normal control to escape from the authority or supervision of superiors. Disaster affords a rare opportunity for freedom of action and freedom from conformity to normal bureaucratic rules and procedure. Both the "humanitarians" and the "anti-authoritarians" may resist the directives of others and strive to act independently. Thus, efforts to integrate or control operations may be met by conflicting value priorities so that the forces alternately tug one way, then another.

The Resolution of Conflict. Regardless of its type, the presence of conflict must soon become apparent. Community authorities cannot long remain ignorant of disruptive rivalries or the absence of coordinated effort. There are strong pressures to clarify operations and increase effectiveness. The resolution of some conflicts will help to improve operations, while the clarification of disaster roles will resolve others.

The modes of conflict resolution usually involve increased agreement about a situation. That is, the conflicting parties come to agree on similar facts (although not necessarily on a similar interpretation). In the settlement of disaster roles and the division of

authority, there are several patterns which may operate: (1) different leaders may join forces and operate together as equal partners; (2) certain services may be clearly divided so that one leader takes over one sphere and another the other; (3) one leader may explicitly submit to the leadership and authority of another; (4) an unstable equilibrium based on strain and limitation of conflict may be reached; (5) unresolved differences may be submitted to a mutually recognized superior for settlement; (6) a leader may intervene to settle a conflict between his subordinates; (7) one leader may strive to dominate critical resources and the means of control, thereby gaining the power to exercise authority over others; (8) differences may be irreconcilable and rival leaders may prefer to avoid each other and operate independently without coordination; or (9) one leader may simply withdraw from operations and cede the ground to his rival.

The first few ways of settling conflict are those most likely to be consensual, while the last few are not harmonious. The latter are not settlements of conflicts, but adjustments to conflicts that are not resolved. Again, however, it must be emphasized that objective conflict refers to more than sheer rivalry and competition; it also includes any disruptive operation or working at cross-purposes, even in a spirit of cooperation.

Authority in Functional Spheres. The settlement of conflict increases agreement and common expectations. This may enable operating effectiveness to be improved by the consolidation of leadership and authority. This integration should be seen most clearly in specific technical services where the division of authority should be most harmonious. There is a high availability of competence. Operating procedures and effectiveness may be judged by fair objective standards deriving from the normal work of the agencies. There are fewer decisions about what must be done and more about who should undertake which work. There can be a clear task-orientation which simplifies the division of responsibility for particular functions. This is based upon roughly common definitions of problems. Consequently, between people who have no normal authority over one another (i.e., peers), roles can be clarified by dividing technical work, by sharing it, by merging operations in a unified service, by operating separately but in coordination.

Where a normal hierarchical arrangement exists between or within agencies, we may expect this to continue as the disaster framework for specific, technical services--unless special adjustments are made for particular operating requirements.

Comprehensive Authority. In the resolution of conflicts in the stricken area, we would expect police organizations to assume leadership and authority. Because the disruption and breakdown of controls call for decisive physical action at the scene of the disaster, we would expect police to converge upon the field as the locus of their primary responsibility. Operating problems might then lead to their mobilization of necessary resources, communication with the public

and various agencies, assistance of agency centers outside the field, etc. Thus, starting from the field, their action might expand outward into the community. Some of these actions would presumably be subject to the authority of agency specialists; the responsibility of police here is to assist experts and to respect the authority of their technical judgments. In other cases, the police might act on the basis of their primary responsibility as field authorities.

In general, we would expect other groups to acknowledge as legitimate the general authority of the police in the field, but to respect it less as specific decisions require technical competence.

The range of alternatives open to the officials is broad. They would be expected to discharge certain responsibilities to the larger community, such as giving progress reports of disaster work, expressing community solidarity, etc. These, however, concern secondary disaster obligations to non-victims rather than the main disaster problems.

Vis-a-vis primary problems, the officials might define their main responsibility as furnishing active leadership. In this case, they might either attempt to take active charge of field operations or of some of the particular technical services (such as welfare activities); or they might try to coordinate these various functions. Thus, their authority would be based on their broad responsibility rather than competence. On the other hand, officials might decide that technical services are specialists' problems and field control a "police function." In that case, they might then define their own role as supportive and stand by to give whatever assistance the police and the agencies might ask, such as the mobilization of certain resources or the bringing in of outside help. Here others' competence rather than their own responsibility would determine authority.

Whatever their basic decision, the officials' action would include functions in the larger community and then might move in varying degrees into the field or into technical spheres. To the extent that officials enter the operating field and spheres of technical service, their activity would overlap that of the agencies and the police (especially as police operations expand outward from the field into the community). The degree of overlap would indicate that officials' responsibility takes precedence over skills as a determinate of authority. This could create severe strains because there is a discrepancy between the officials' authority and responsibility and their command of premium skills or technical competence.

In the area of overlap, the discrepancy between authority and competence may vary considerably. In the most technical services (viz., hospitals), it would be large and clear. In less technical agency services (viz., housing), the discrepancy might be smaller and less clear. In the field operations, a discrepancy might no longer be objectively demonstrable, but might become a matter of judgment. Accordingly, if officials press their active leadership and their formal authority we might expect several consequences. As the

discrepancy between their authority and apparent competence decreases, we might expect (1) increasingly tense and instable conflict resolutions; and (2) less role clarification and less integration of a leadership system. The most technical services should be least affected because the control over the necessary skills is not easily affected simply by an assertion of authority. But authority over less technical functions might be subject to shifts and manipulation by the sheer arrogation of decisions. Specialists may resist these on many grounds, thus making for instable resolution of conflict and limited role clarification. Under these circumstances, we might expect a predominance of indecisive adjustment and resolution of conflict. If coordinated authority and leadership have major effects on disaster operations, such resolutions may become disruptive.

The situation of formal authority without corresponding competence and de facto leadership without corresponding authority highlights the possible strains between responsibility and skills as competitive bases of emergency authority.

Local and Outside Authorities. To this point, we have considered the relations among local community authorities. But the active participation of groups from outside the community raises additional authority problems. This is particularly true when incoming people are high officials, higher-echelon superiors of local organizations (viz., Red Cross), or simply specialist groups of high competence. Their formal responsibility in the local situation may be highly ambiguous. In general, we may expect that the greater involvement and immediate responsibility of local authorities will be acknowledged as a superior moral claim to authority. This might even override many hierarchical relations between local authorities and direct-line administrative superiors. Therefore, except for several special circumstances,³ we should expect no outsiders to assume direct authority unless: (1) local authorities request or clearly allow them to take charge, and (2) the resources of outside organizations are unmistakably superior to those of the local groups. These two conditions do not mean that outsiders will necessarily assume general responsibility, but only that both conditions should be found in cases where they do.

In summary, then, we have the following general expectations. The normal system is taken as a frame of reference for emergency action. Normal roles have different values as clear guides to disaster problems. Responsibility pressures nonetheless force action on the basis of private definitions. There are certain sources of inevitable conflict among leaders: their private definitions, conflicting interests, or conflicting values. Pressures to resolve conflicts in the interest of effective operation may be most successfully realized in technical spheres because of objective standards. In other spheres, there may be unstable resolutions which arise from strains between values of direct action vs. organization, and from discrepancies between responsibility and competence. In general, the clearest allocation of authority should be related to technical spheres, to normally clear hierarchical relationships, and to outsiders'

respect for local prerogatives. The most tenuous resolutions should arise in the comprehensive authority spheres and reflect severe responsibility pressures and ambiguous criteria of competence.

These problems were examined in the research to be reported. The project involved an intensive qualitative study of the response to two tornadoes that struck four towns in Michigan and Massachusetts in the summer of 1953. The study was undertaken quickly, almost precipitately, hard on the heels of the events. In this sense, it exemplifies almost pure "opportunity" research. From the outset, interest focused on communications patterns and the emergent authority structures. But unlike conventional studies, little time was available for prior conceptualization, analysis and research design. However, the original concern with authority generated a great deal of valuable qualitative data for analysis. Methodological considerations are discussed in Appendix I, "The Research Study."

FOOTNOTES: Chapter I

1. The illustrations among the officials, police, and agencies include offices and departments which are outside the municipal establishment (such as Governors, State Police, or Coast Guard) and some which are not strictly public organizations (such as Salvation Army). The non-local and quasi-public groups normally take major roles in disaster and their relations to local public authorities is of prime importance. Though they are not community authorities, they assume responsibility for community welfare. Therefore, they are included here.

2. Since leadership subsumes competence, we can regard the terms as synonymous.

3. Viz., the declaration of martial law, or the regulations of the Red Cross by which the local chapter holds a "disaster beachhead" until a team of disaster specialists arrives from national headquarters to take over local operations.

Chapter II

THE ANATOMY OF DISASTER

Witnesses can seldom adequately express the effects of tornadoes. They often lapse into cliches or recount fragmentary incidents in an effort to depict the great confusion and disorder. One senses the frustration of communication, for experience creates a gulf which talk does not effectively bridge. Feelings and isolated impressions are conveyed well, but not an overall picture of the larger event itself and what took place.

Accordingly, in this chapter, we will try to summarize briefly what happens after a tornado. First, we will place the aftermath in a time perspective. Then we will describe the immediate needs and problems which must be met. Finally, we will consider the major response patterns of victims, community members, and various public authorities. This introduction will provide some general background and perspective for the data in subsequent chapters on Worcester, Holden, Shrewsbury and Flint.

Time Stages in Disaster. Disasters disrupt individual and community alike, and the problems of both become the responsibility of public authorities. These problems vary according to different time periods after a tornado passes.

The post-tornado phase can be divided into three stages: (1) Rescue, (2) Emergency, and (3) Rehabilitation. These can be distinguished from one another by several variables: the relative prominence of human survival or property problems, the relative clarity of problems, action governed by compelling urgency or long-term time perspectives, the degree of rational control that can successfully be imposed on the solution of problems. Each stage has its own distinctive features.

1. Rescue. This is literally the life-and-death phase. It lasts about eight to sixteen hours after a tornado. This period includes the rescue and evacuation of victims; the provision of emergency medical treatment for all casualties; the conduct of a systematic final search of the stricken area to see that no victim has been overlooked; accounting for all residents of the area; the provision of emergency feeding, clothing or housing for displaced people.

The rescue stage is over when the final search is completed or the last casualty at a hospital has been attended by a doctor, whichever comes later.

2. Emergency. This is the stage of transition between these first critical hours and the subsequent long-term recovery. It is an

interim period of recuperation, clean-up, and routinization of activities. During this time, a provisional life is organized for the rehabilitation period ahead. Control is successfully imposed over the remaining disaster problems and arrangements for handling them are regularized. These problems include the re-uniting of separated family members, removal of public safety hazards, recovery and safeguard of personal property, clearance of debris, resumption of controlled admission to stricken areas, restoration of disrupted facilities, preliminary appraisal of damage for long-range aid programs, and a shift in control from police and public safety agencies to administrative officials.

The emergency period is ended when disaster work has been routinized and controls lifted and normal work responsibilities have been resumed.

3. Rehabilitation. This is the period of long-range recovery and the restoration of normal life conditions. It invariably entails reconstruction work. Community rehabilitation can last months or years.

There are marked changes in community sentiment during these stages. Among the immediate responses to disaster is a surge of community solidarity. These feelings may be strong enough to waive, however temporarily, the most stringent taboos. This reaction is most conspicuous during the rescue stage. A notable illustration was observed some years ago after a tornado hit Vicksburg, in the heart of the Deep South:

And in this emergency period, human values underwent a change. White helped black and black helped white. There were no distinctions in admission to hospitals; whites and Negroes lay side by side in the shock rooms, gave their blood side by side, were hospitalized in the same rooms. In the Jefferson Street area, which was destroyed and where lives were lost, white neighbors threw open their homes to injured Negroes and calmed and nursed them. (Samuels 1954)

But as the disaster experience recedes, the sentiments of solidarity gradually subside and the pre-disaster patterns reassert themselves. Thus, in less than three months after the tornado, during the rehabilitation period, Vicksburg presented another picture:

Today Vicksburg is well on the road to its normal life again. The Small Business Administration has approved loans to those with resources; houses are rising over the ruins, and, though the debris is still a problem, the town has clearly overcome adversity. Likewise, the old folkways are back in full force. The policy of racial mixing and non-separation has now been dropped as spontaneously as it began.²

The disequilibrium of the rescue period and the restoration of stable features of community organization during rehabilitation simply illustrate the profound and comprehensive adjustments which disasters precipitate.³

Time Focus of the Present Study. This study of authority is focused upon the Rescue Period and the beginning of the Emergency stage. Some of our interests extend slightly beyond this time to the end of the emergency phase. But our attention will be devoted primarily to events of the rescue period.

Duration of Rescue and Emergency Stages. The period of time encompassed by this study is that of the rescue and emergency stages together. We noted that the rescue phase lasts between eight and sixteen hours and that the emergency is over when disaster work is routinized and normal work responsibilities are resumed. These two stages apparently last almost one week.

This can be shown objectively by the effect of the tornado upon the issuance of traffic violation tickets. Since police are so active during the time of greatest disorder, their emergency service comes at the expense of their routine work -- which includes the control of traffic violations. Any sharp decline in such routine police duties can confidently be attributed to their disaster work. Accordingly, we can compare the number of tickets issued daily after the tornado with a normal pre-disaster period in order to see how long it takes for the disrupted routine duties to return to a normal level. The week immediately before the tornado provides the norms of conventional daily activity.

The police departments of the two large cities in our study, Worcester and Flint, have kindly furnished the figures of their moving traffic violation tickets before and after the tornado. We can compare the daily number of post-tornado tickets with the number issued on the corresponding "normal" day of the week before the disasters. The daily post-tornado tickets can be expressed as a percentage of the previous week's norm for that day. The course of moving traffic violation tickets appears in Table 1.

Table 1

TRAFFIC VIOLATION TICKETS AFTER THE TORNADOES
IN WORCESTER AND FLINT

<u>Day of Tornado Week</u>	<u>Daily Tickets as a Percentage of those Issued on the Same Day of the Week before Tornado</u>	
	<u>Worcester</u>	<u>Flint</u>
Tornado Day	40%	122%
Second Day	36	23
Third Day	16	32
Fourth Day	44	66
Fifth Day	50	38
Sixth Day	100	140
Seventh Day	82	82

Table 1 shows that after the disaster, traffic violation tickets drop drastically to fractions of their pre-tornado level and they remain down for almost a week. On the day after the tornado, only 36% as many tickets were issued in Worcester as a week earlier and Flint had only 23% as many.⁴ The post-tornado ticketing activity was low for five days and did not resume a normal level until the sixth day after the tornado. The disaster absorbed the attention of police for five days. But by the sixth, they were able to assimilate further disaster activity into their regular schedule of normal duties. Thus, the routinization of disaster services which terminates the emergency period was accomplished in about one week. The emergency stage could truly be judged as over.

The authority patterns which we will study, are concentrated in the rescue period, but also extend through much of the first week after the tornado.

In this time perspective, what actually happens? What problems does the tornado create?

Problems may be seen as substantive and as organizational. The substantive problems are the primary work requirements set by victims, property, and hazards; organizational problems involve the arrangements and procedures which are set up to meet these primary needs. The substantive problems set the goals of action and the organizational problems cover the means to achieve them. The organizational problems are our primary concern.

Substantive Problems. Primary needs exist within the stricken zone and outside it. Those within the disaster area may be called "field" problems and those outside "social services" (including major medical attention). Although some relationship does exist between type of activity and where it occurs, no hard and fast line can be drawn between these functions. Some social services (viz., feeding, supplying safe drinking water) do extend into the impact zone. Similarly, field services (viz., traffic control, mobilization of equipment) do extend into the community.

Although the field and social services cannot be completely separated in space, there does tend to be sharp division of labor. The function of any given official or agency can usually be designated as clearly "field" or "social service."

The field authorities tend to be mainly police and law enforcement officers of various kinds. Other public safety agencies (such as fire departments or the Civil Defense) may also be prominent in the field, but usually their authority is not comparable to that of the police. The field authority assumed by political officials varies greatly. Other groups (viz., public works or highway departments or the Civil Air Patrol) are customarily active in the field, although seldom in an authoritative role.

The social service authorities tend to be specialists in public aid and welfare. They include agencies like the Red Cross, local welfare department, Salvation Army, etc. Other specialists tend to be highly technical, medical people, radio experts, etc.).

Some organizations, notably the Civil Defense, assay both field and social service functions. But their relative inexperience and amateur status vis-a-vis the experienced professional groups in both spheres generally leave them at a disadvantage in asserting effective authority.

Field Problems. Tornadoes are typically followed by severe rainstorms and hail, but the three Massachusetts towns studied were spared this complication. The Flint area not only had rain, but also the misfortune to be struck at twilight. When the tornado passed, the entire area was blanketed in darkness. The three towns without rain were hit earlier in the evening and had a short period of limited visibility. None of the towns had a serious fire.

Under a tornado's impact, homes are destroyed and damaged. Cars and furniture or other large heavy objects (including small buildings) are carried great distances and deposited (or hurled) haphazardly. Smaller items of all descriptions are scattered about indiscriminately, and formidable obstacles of debris are everywhere. Trees are felled and roads are blocked. Public utilities are destroyed or disrupted. There are no telephones for communication, no water for drinking or possible fire fighting, no electricity for light and power, etc. Ruptured gas mains and gasoline from cars create explosive fire hazards. The entire area is converted into a disorganized, amorphous chaos in which physical movement itself is difficult and at times impossible. In this chaos are victims -- some trapped under collapsed homes, many casualties, some stunned and unable to take care of themselves, some plunged into grief, many frantically trying to reach their loved ones.

Under these conditions, authorities are faced with many problems. They must survey the area to clarify the operating problems and needs. Victims must be found and casualties evacuated to hospitals. To reach casualties and move them, roads must be unblocked. Heavy machinery is often necessary. Assorted equipment must be provided for workers in the field (lights, shovels, stretchers, power chain saws, bulldozers, electric generators, etc.). Traffic must be managed. The general congestion in the field must be controlled to allow work to go on and ambulances and other emergency vehicles to move. Unhelpful sightseers must be kept out of the way and access to the area must be limited. Final searches must be conducted and residents accounted for. Field workers must be fed. Property must be collected and protected and potential looting prevented. The dead must be brought to a morgue, identified, and later released to kin. Public safety hazards, such as dangerous buildings or pools of open gasoline from damaged cars, must be cleared away. Debris must be removed, all roads open, and the area generally cleared. Disrupted utilities must be repaired, a task left to the utility companies themselves (and they do an impressive restoration job). A pass system must be instituted to control admission to the stricken zones. Different classes of passes must be worked out, so that residents are distinguished for utility workers, other workers, postmen, visitors, etc. Eventually, although not necessarily in the first week, all controls are removed. The area is thereafter regarded as a special work rehabilitation zone but is treated no differently from any other part of the community, aside from special tax concessions or similar policies.

Social Service Problems. The social service problems deal mainly with the reception of persons displaced from their homes. At the hospitals, casualties must be screened to separate the minor from the severely injured, and the hospitalized patients must be sorted into surgical and nonsurgical cases. Additional hospital beds must be found and the stock of critical medical items (viz., oxygen tents) kept in good supply. Doctors and especially nurses must be directed to hospitals. Victims must be channeled to centers of help. Housing must be found for displaced people (a need greatly over-estimated, at least in urban areas, by inexperienced officials and public alike). Separated families must be brought together. Inquiries about residents' personal welfare and temporary location are received from anxious relatives and friends and the information must be supplied. The needs usually result in some system for the registration of victims, including the casualties in hospitals. Emergency feeding must be provided for the homeless and for volunteer workers. Certain personal necessities for which there is an immediate or continuing need (viz., diapers and cribs, warm clothing and blankets, sometimes hearing aids or spectacles, diabetic supplies and similar specialized items) must be provided almost immediately. Relief and rehabilitation information must be well publicized and applications handled. Mail deliveries and similar public services have to be improvised.

These illustrations are far from exhaustive. An almost infinite number of welfare and social service problems arise. Victims attend to most of them independently, but authorities seldom anticipate this and feel responsible for attending to all pressing needs.

Conditions of Problem Solution. Despite the ravages of these tornadoes, one condition was supremely important in both events. The means to cope with the emergency remained essentially intact. The serious damage and destruction of community facilities remained localized, and the basic resources of the communities were almost unimpaired.⁵ In this sense, the disasters were personally tragic, but they did not incapacitate the communities. Resources were intact, and the problem centered on their effective mobilization and use.

In this context, then, how were the problems dealt with? First, what were the spontaneous responses of victims and other unorganized groups?

Independence and Self-Reliance. The first striking feature was the dependency pattern of those most personally affected by the tornado--victims, their families, and friends. Victims preferred to receive and give help within the closest and most familiar circles. People sought help first from family, friends, and neighbors. Then they turned to larger, but less intimate, membership groups (church, place of work, local community institutions). They looked next to other individual members of the community (casual acquaintances and strangers). Only as these sources of help were exhausted did they turn to the impersonal formal organizations. These were almost invariably the most familiar, established community institutions (radio stations, police, welfare departments, etc.). The final, least preferred choices were the special disaster agencies (Red Cross, Civil Defense, etc.). Spontaneous help

was also offered according to this principle of the donor's closeness and personal importance to the victim.

Taken together, the general responses were characterized by informal self help and spontaneous mutual aid in preference to reliance on public services. This will be documented presently. This pattern caused inexperienced authorities to over-estimate the food, clothing, and housing requirements which they would actually be called upon to provide.

Mass Participation. Apart from these responses of victims, there was a general mass convergence upon all scenes of disaster activity: at the stricken zones, at hospitals, agency offices, and other centers outside the field, (Frtize, Mattewson, 1957). This mass participation had four typical features which we can call sightseers, mass volunteers, mass donations, and mass assault.

Sightseers. Many people who were completely unaffected by the disaster flocked to the stricken zones out of sheer curiosity. Their lack of involvement evoked strong hostility from authorities, helpers, and victims alike. Some people were quite innocently caught in the disaster zone when the tornado struck, and they were mistaken for sightseers. Others who came from curiosity became helpers, while some who came to help could not get into the field. But aside from these, there were unquestionably large crowds of inquisitive sightseers who aggravated the congestion.

Mass Volunteers. The convergence of crowds of people on the field and on other centers epitomized the mass participation. Some people were in or near the disaster scene, others came from the community, and still others came from other towns. They came as individuals and as groups in a steady stream to give whatever help they could. Many represented public and private organizations of all types. Most, however, were simply anonymous community members with no special disaster skills. They came spontaneously in large numbers from all quarters and stayed as long as they were needed. Nowhere was there a scarcity of willing, eager volunteers.

Mass Donations. Aside from voluntary services and manpower, the disaster released a spontaneous flood of all kinds of supplies: food, blood, bedding, clothing, housing, flashlights, shovels, floodlights, power generators, short-wave radio sets, trucks, the use of buildings, fire engines, and all kinds of heavy construction equipment, such as cranes, bulldozers, and clambuckets. In these mass donations, many items, but particularly the heavy equipment, were in over-supply and often poorly timed. (In some disasters, such as floods, there may never be enough critical equipment in the affected areas.)

Mass Assault. The manner in which problems were attacked, especially in the field, is expressed by the term, mass assault. Under the emergency pressure, disaster needs were perceived in

narrow terms. On arrival, helpers plunged into almost the first problem that came to hand, wrestled with it by main force until it was accomplished, and then plunged into the next specific need that confronted them. Almost no attention was paid to any problem except the particular victim being helped, the tree being chopped, the collapsed wall being propped up. There was intense concentration on a single point at any one time. Various work teams had a short, unstable life, breaking up when a specific task was finished and spontaneously regrouping into other teams. In this fashion, an urgent attack was concentrated on a series of discrete points all over the field until the work was done.

The spontaneous mass participation, which expressed the solidarity of the community, was distinguished by urgency, anonymity, vast energy and a narrow focus.

Effects of Mass Participation. The mass participation had both positive and negative results. The main negative effect was the extreme congestion which developed in the field, at hospitals or other disaster centers, and on the roads between them. At various times and places, movement was almost paralyzed and extreme measures were sometimes necessary to break the most severe bottlenecks. At one point, for example, a long line of cars which had been haphazardly parked on a vital road was removed by tipping them over onto the shoulder.

There were also several positive consequences. The first affected rescue operations. The very brunt of the rescue work and evacuation was borne largely by the spontaneous volunteers who poured into the field immediately after the disaster. Although the mass assault was unorganized, the vast energy of the anonymous multitude simply drove the rescue work along regardless of efficiency or direction. Sheer manpower was a substitute for system, and it probably saved many lives.

The second positive consequence was the effect on the supply of all types of resources. Part of the congestion was due to an unplanned concentration of vital resources where they might be needed. These included everything from raw manpower or expert skills (doctors and demolition specialists) to transportation or critically needed supplies (chain saws, blood, lights, short-wave radios). While many specific items had to be specially mobilized, an overwhelming amount was the unplanned result of mass participation. This adventitious supply process will be termed manna-from-heaven because help often appeared where and when it was needed by sheer chance or accident.

In general, the mass participation tended to follow its own inflexible course. While things were accomplished, the spontaneous responses followed people's familiar pathways. Established habits or familiar community facilities (viz., main roads, popular hospitals) were used to structure the situation, to orient behavior, and to channelize action. While this helped

in many respects, it led to congestion and the overload of some community facilities while others were ignored. Main roads were choked while parallel side streets a block away were empty. Whenever possible, familiar behavior patterns were followed with an extreme drive and urgency. This made the mass participation extremely intractable and difficult to direct into more effective alternative channels. The entire problem merits the close study of specialists in mass behavior (Barton, 1970).

Insofar as the mass participation was largely unorganized and undirected, it was made up of the sum of actions of many individuals. Its consequences are reminiscent of a passage from Tolstoy's War and Peace in which he comments on the Russian retreat from Moscow:

The tales and descriptions of that period without exception tell us of nothing but the self-sacrifice, the patriotism, the despair, the grief, and the heroism. . . . In reality, it was not at all like that. It seems so to us, because we see out of the past only the general historical interest of that period, and we do not see all the personal human interests of the men of that time. And yet in reality these personal interests of the immediate present are of so much greater importance than public interests, that they prevent the public interest from ever being felt--from being noticed not at all, indeed. The majority of the people of that period took no heed of the general progress of public affairs, and were only influenced by their immediate personal interests. And these very people played the most useful part in the work of the time.

Authorities' Responses. We have considered the spontaneous responses of victims and anonymous volunteers. Against this background we can consider the outstanding features in the operation of authority groups. These were highly variable from one situation to another, as the ensuing chapters will show. They varied by town, by group, by stage of disaster. There were different modes of furnishing or not furnishing leadership. There were various approaches to the problems of organization. But certain common tendencies can be delineated.

First, authorities shared some of the main features of the popular responses. In particular, they had their own version of a mass assault, often tackling immediate problems piecemeal and working at them as discrete tasks unrelated to other needs. This operation was not always quite as disorganized and amorphous as that of the private volunteers, but took on certain structured characteristics.

Second, they mobilized resources. There were three patterns which made up the process of supply. These varied according to whether authorities found suppliers and controlled delivery. In the first pattern, manna-from-heaven, they did neither. In the second, wave supply, they located suppliers, but left delivery

to them. There was a mass mobilization of fairly common items (flashlights, trucks). Emergency calls were sent out and mass donations were trusted to saturate the operating arena. Typically, the necessary items came flooding in, almost in waves. (In Holden, resources were mobilized in this way, but their entry to the field was, in fact, controlled in order to avoid congestion.) The third pattern is pin-point supply. This involved a highly critical, specific item for which there was no adequate substitute (oxygen tent, scarce blood type, electric generator). The item was specifically requested at the point of need, procured by authorities and sent directly where it was needed. Thus, in pin-point supply, authorities located the item and controlled delivery. While manna-from-heaven probably accounted for the largest volume of resources, its importance declined as more specialized and scarce items were needed.

Third, authorities furnished some leadership, supervision, and coordination of operations. This was more applicable to the social services than to the field. There was a highly variable division of labor and responsibility, some work of private volunteers was supervised, some attention was given to bottlenecks and circulation problems, and there was some rudimentary systemization of specific functions (final searches in the field, casualty screening at hospitals, establishment of emergency morgues, collection of personal property, development of pass systems). There was generally a more organized approach to the process of organization itself. Consequently, the degree of effective leadership and control varied, but was generally limited.

Fourth, public agencies also furnished larger individual work groups than the private volunteers. These groups were experienced in working together as teams, they had strong cohesiveness and a sense of group identity. Consequently, the work unit was stable and continuous and could be used for trouble-shooting. (Some private volunteers, notably adolescent groups, showed a similar cohesion and stability.)

Fifth, overall authority among agencies tended to be determined less by personal leadership, performance or experience with disasters than by the adequacy of existing organization. The most adequate organization was found in those agencies with the most resources, the largest number of easily recognized men who were used to working together, a well-developed communications system, and clearly structured responsibility levels. (There were two notable exceptions to this: one was a decisive, respected leader with outstanding organizing ability; the other was the town of Holden which mobilized social services along communal rather than agency lines.) The groups with the most adequate organization were typically police. They were normally accustomed to giving orders. But they were not experienced in organizing large scale work systems or in supervising continuous work activity. They were also accustomed to operating as a separate organization and seldom to integrating their activities with those of other groups. These factors were reflected in

the next point.

Sixth, almost all public agencies tended to operate independently of one another. Many worked strictly on their own initiative with little reference to other groups. Their contact was haphazard and sporadic. To be sure, there was some liaison among blocs or clumps of agencies. But this followed loose networks of cooperation, largely (but not exclusively) within similar occupational or institutional groups (hospitals, police, political officials, public works departments).

Seventh, some form of ad hoc disaster committee invariably developed in each town. This was organized late in the rescue period or early in the emergency stage. Its purpose was to integrate all disaster operations. But the committee was usually so preoccupied with immediate and long-term fiscal problems that it tended to rubber-stamp suggestions of separate operating agencies and provided little comprehensive leadership.

Eighth, authorities could impose quite effective control over many disaster problems from early in the emergency stage, but were far more ineffective and helpless throughout the rescue period.

The Relativity of Control. The participation patterns discussed in this chapter expose important problems about the value of leadership in disaster. The authority system constitutes an explicit leadership structure. But can the leadership of authorities effectively control and regulate disaster action, particularly during the rescue period?

In other words, how much difference does an authority system actually make in meeting disaster needs? Does any attempt at rational organization of operations have major effects? Or would the disaster problems be solved as effectively simply by an undirected mass assault? Would all the necessary things get done in about the same amount of time without the intervention of formal authorities? Can the authority system, then, be a significant controlling force or is this simply an illusion?

Tolstoy, for example, flatly asserts:

Those who were striving to grasp the general course of events, and trying by self-sacrifice and heroism to take a hand in it, were the most useless members of society; they saw everything upside down, and all that they did with the best intentions turned out to be useless folly. . .

The present study can give clues, but no definitive answer to the problem. No answer is possible before we clarify the conditions under which control can be effective. This requires that the problem be separated into two parts: (1) The most decisive issue depends on the ability of authorities to achieve specific control over the mass participation.

(2) The limits of this ability can only be judged from the most competent leadership. (A related, but separate question would then follow: how frequently do such leaders occupy positions of community authority?)

This brings the problem one step closer to its elements. In order to judge the effect of leadership on mass participation, we must be able to distinguish between good and mediocre leadership. This is difficult because there are no adequate independent criteria of good leadership in disaster. We are instead tempted to confuse the issue by rating leaders according to their apparent effectiveness, i.e., by the "results" in the field. This must be avoided because it completely prejudices the question. If we want to learn about the effect of leaders on participation, we cannot use participation to classify the leaders. Although satisfactory independent measures of leadership may not be available, the judgment of a leader's quality must always be based on his orientation, approach and mode of operation, but not on his nominal effects. Only then can we eventually discriminate the possible effects of different leadership by comparing disasters with similar operating conditions and similar problems to be solved.

The independent judgment of leadership quality must be based on the authorities' approach to problems of organization. We must ask, not simply what they did, but how they made decisions, how they selected goals and worked out means to achieve them. How did they define the problems, how did they choose between possible solutions with given resources and operating conditions? Chapter VII contains an outline of major problems of organization in disaster. Leadership may be judged (and ultimately, perhaps, measured) by the strategic decisions which authorities make about such problems. Our data lay heavy emphasis on how authorities approached various problems of organization.

As we have indicated, this study cannot demonstrate the ultimate effectiveness of authorities' action. There are no objective criteria of effectiveness, although some rudimentary time-indices or rates might be suggested for future studies: the time taken to evacuate all casualties, to attend to various types of hospital cases, or to start mass feeding with hot meals. Many disasters must be studied before the effects of leadership under comparable operating conditions can be evaluated.

In the four towns to be reported, no really effective direction and control seemed to be achieved over the rescue operation, although some isolated processes during this period were most impressively handled. The towns with perhaps the most effective leadership were Holden and Shrewsbury, and we will use them as arbitrary standards of "better" leadership for purposes of judging particular leadership performance. Yet, even in Holden and Shrewsbury the direct control over field operations and the mass assault was not great. Retrospective interviews are a poor basis for such judgments. But the data

indicate that regulation was limited, that some cohesive work-teams under a central control operated as free-floating trouble-shooters against circulation bottlenecks, and that strategic equipment was distributed fairly evenly among the five zones in the field. Thus, the authority system had a more direct effect on the working conditions of the mass assault than on the mass assault itself.

When we compare Holden (which had "better" leadership) with Flint ("worse" leadership), it seems that a comparable number of casualties was evacuated from both places in a similar period of time. But, we cannot even evaluate this finding properly because we cannot standardize for the operating conditions. We do not know whether Flint's injured might have reached the hospitals in one-half the time if there had been different leadership; or, similarly, whether the evacuation of Holden's casualties might have taken twice as long simply without the roving trouble-shooters.

For rescue operations, the naked mass assault might be just as effective as the leadership furnished by authorities. On the other hand, in Holden, systematic control was perceptibly effective in operations which supported activity in the field with help from outside: mobilization of resources, entrance to the stricken area, "controlled" wave supply, communications within the field and between the field and outside. Even this control was based on the independent operation of various authorities.

There is, incidentally, no reason to suppose that any authority system organized in the field would become inflexible during the rescue period, although some rigidity might develop during the emergency stage (when quite effective controls are quickly established).

Clearly, however, despite the variation among our four towns, the positive control over rescue operations was never great in an absolute sense. Throughout this report, then, any reference to effective control is STRICTLY RELATIVE. This cannot be emphasized too strongly. It should be clearly understood, that unless otherwise qualified, comparisons of authorities' effectiveness simply mean relatively greater or relatively less. While the present study leaves open the measurement of authorities' effectiveness, it provides preliminary materials for future reference.

One further caveat is in order. Our basic data are, of course, qualitative. But inevitably under the circumstances of such research, they could not systematically provide comparable coverage in all four towns. Thus, of the full range of possible disaster problems, our study implicitly sampled different parts of the spectrum more heavily

in different places. Thereby, each town is richer in some emphasis and focus than another. Some significant comparative materials are certainly at hand and will be examined intensively. But for the most part, each town presents a specially rich perspective on certain problems that the data on the other towns do not cover to the same extent.

FOOTNOTES: Chapter II

1. It is possible to derive a systematic typology of disaster stages from variables such as these (although this is not necessary for the time perspectives of the present study). For a discussion of the attempts to develop a time-space model, see Dynes, 1974.
2. Samuels, 1954, It is significant that the color taboo was temporarily waived under two conditions: (a) the legitimacy of the normal taboo was not challenged; (b) the crisis was defined as a temporary episode in which the weakening of the taboo was not the object of organized political action.
3. It is quite doubtful that the pre-disaster patterns are ever reestablished completely. Various changes in community structure are probably inevitable, and disasters contain unusual opportunities for studies of social change. CF. Prince 1920; Anderson 1969; Blanshan 1975; and Ross 1976.
4. On the day of the tornado, Worcester had 40% as many tickets as usual while in Flint 122% were issued. This reflects the different time of day that the disasters occurred. Worcester was hit just at the onset of the evening rush-hour traffic, so the tornado came before this heavy ticketing period and stopped the issuance of tickets. In Flint, the tornado struck after the evening traffic rush was over and the normal number of tickets had been already issued. But the prompt effects of the disaster are to be noted in the following day's activity.
5. This difference between civil and military disasters limits the relevance of disaster experience for hypothetical military situations.

Chapter III

SHREWSBURY

Shrewsbury and Holden are strictly residential suburbs of Worcester, each lying within ten miles of the parent city and no more than five miles from its outskirts. The two towns appeared remarkably similar at the time of the tornado.

As dormitory suburbs of Worcester, both towns reflected the growth of suburbia during the decade of the war. While the population of the greater Worcester metropolitan area grew by 8% between 1940 and 1950, the two suburbs burgeoned in this period. By 1950, the 1940 population of Holden increased 52%; that of Shrewsbury increased 40%. This trend has apparently continued since the 1950 census when Holden's population was approximately 6,000 and Shrewsbury's slightly over 10,000.

In both census years the age and sex composition of both towns was virtually identical (See Table 2).

Table 2

AGE AND SEX COMPOSITION OF HOLDEN AND SHREWSBURY IN 1940 AND 1950

	Percent of Population in Each Age Group:						Percent*
	Under 15	15-24	25-34	35-44	45-54	55+	
<u>1940</u>							<u>Male</u>
Holden	25%	16%	16%	14%	13%	16%	49%
Shrews- bury	23	16	16	14	14	17	48
<u>1950</u>							
Holden	27%	12%	16%	17%	12%	16%	49%
Shrews- bury	25	12	16	15	12	19	48

*There are no significant differences in the sex composition of age groups.

The suburban character of the towns, is further emphasized by the proportion of children and adolescents. Almost exactly one third of the population of both towns in both census years was under 21 years of age.

In keeping with the general pattern, private home-owners predominated in each town. About two-thirds of the dwelling units were owner-occupied in both places, and the average 1950 value of all dwelling units exceeded \$10,000. This indicates the towns' class composition: they were middle and upper-middle class suburbs which burgeoned after the war to provide homes for business and professional men. These people were overwhelmingly native, white, Protestant, with almost no representation of racial and ethnic minorities.

Both towns were suburbia. But they were sufficiently old and established to assimilate their post-war in-migrants in venerable, tree-shaded streets. Both communities had deep roots and staunch community cores to stabilize their quick growth.

As the slightly larger town, Shrewsbury had a larger municipal establishment. There was a compact, efficient administrative center of town offices, police and fire departments. Its small, but full-time police force was headed by a forceful curmudgeon-like chief. Holden had one full-time constable assisted by several part-time, unpaid volunteer auxiliaries. Both towns had their own fire departments. Each town belonged to an association of small towns organized for mutual-aid in fire and police emergencies--Holden to one made up of towns to the north, Shrewsbury to another to the east. Both towns had small Red Cross chapters.

The tornado struck both Shrewsbury and Holden with minutes of the time that Worcester was hit. Except for short wave radio, all communications with the outside were totally disrupted in both towns. Neither suburb had any significant industrial or commercial development, and the property destruction was confined to homes including some new residential neighborhoods of \$25,000-\$45,000 houses. These stricken areas were somewhat dispersed in Holden and rather difficult to reach from the center of town after the tornado passed. In Shrewsbury the destruction was more concentrated and more accessible.

Overall Field Authority

The stricken zones in Shrewsbury showed a series of circumferential streets with cul-de-sac offshoots rather than a gridiron layout. Access to the neighborhoods could be controlled by sealing off a number of strategic intersections on the perimeter. The areas were concentrated enough to allow personal coverage by a field supervisor and were close enough to the town center so that contact could be maintained between the field and a headquarters by runner if need be. Consequently, operating headquarters for the field was concentrated in one center rather than dispersed in several places.

In its police chief, Shrewsbury had a vigorous, competent local leader who knew the community well. He apparently enjoyed considerable respect in the community and among other police agencies in the region. He commanded the outward symbols of authority and proved to be a decisive leader who approached the emergency

in relatively comprehensive, strategic terms. The remainder of the full-time police force consisted of a sergeant and several men.

The lack of other public resources testified that Shrewsbury was a small town. Other public safety services were limited. Civil Defense, for example, was almost completely defunct, the victim of public apathy and lack of funds. As an emergency organization, the agency was impotent, lacking facilities, program, or trained personnel. Shrewsbury had no hospital. Major medical problems were, in effect, evacuated with the casualties to other towns. Thus, Shrewsbury was not faced with a continuing program of medical support and its resources thereby limited the range of problems to be met.

This simplified the kind, but not the amount of help required from the outside. The limited public manpower left Shrewsbury strongly dependent on outside reinforcements, particularly on organized groups capable of police functions. Access to outside help was restricted by the tornado's effects, but this was not completely incapacitating. All telephone lines between Shrewsbury and the outside were knocked out. But the police radio furnished a direct, effective link to its association of mutual-aid towns. Although this limited the number of places which could be reached directly, any requests could be relayed if necessary. The simple link posed no dilemma of choice and was effective in getting help.

In comparison with the other towns studied, Shrewsbury's disaster was set in a compact framework which could be more clearly visualized and directly grasped. The range of problems to be handled was not as great as those of the other towns. The field situation was attacked by a vigorous local leader of acknowledged competence. Although Shrewsbury's disaster was the most clear-cut of any studied, complication developed between the field authority and the townspeople.

* * * * *

When the tornado struck, it released the familiar mass assault by survivors, neighbors, and volunteers. Victims were evacuated as well as possible in any available vehicles to hospitals in Worcester and elsewhere in the area. The mass assault consisted of fluid, unstable groups that worked without any organization.

The first concerns of the police chief were to organize manpower and to develop a comprehensive picture of the disaster problems. He said:

Hell, we couldn't begin to get things into shape and find out what was happening until we could get a perimeter drawn around the area. You had to seal it off and get it cleared. Or else you never would know who was hurt and where, and who was working and who was there for a joy-ride.

He judged that the overall situation could be controlled and supervised only with stable, disciplined teams. For this purpose, the small size of the local police force was a handicap. His first step was to get some organized reinforcements. He radioed an emergency call for police from the mutual-aid association towns. Then, with the help of the local American Legion post, he had Shrewsbury's auxiliary police mobilized.

Outside assistance was meanwhile being summoned independently from another source. When the storm passed, one of the town's councilmen went to Worcester to get help. He also stopped several times en route to telephone another nearby town, but he could not get a call through. The traffic jam necessitated changing automobiles twice as well as walking. Finally, after an hour, he managed to get a call through to the National Guard at the Worcester Armory. It took him another half hour to drive back to Shrewsbury. By this time, an hour and a half after the tornado, the National Guard had already arrived.

While help was being mobilized and the mass assault was going on, the police chief conducted a personal survey of the areas of destruction. From the field, he kept in radio contact with police headquarters at the town center and gave a running report on conditions in various sections. As help gradually arrived (viz., Shrewsbury police auxiliaries and outside police forces), he assigned them to critical sections and bottlenecks which his survey had disclosed.

The survey itself clarified the overall situation, and on the basis of this information, the police chief formulated a comprehensive plan of action. Reinforcements were being fitted into this plan as they arrived in small groups. When the first contingent of sixty militiamen arrived an hour and a half after the tornado, about 150 assorted police personnel were on hand and the full plan for comprehensive operations became possible.

The police chief went into immediate consultation with the National Guard commander, outlining the overall field problems and his basic plan of attack. This was directed primarily to search-and-rescue operations and to property protection.

Comprehensive Strategy. The basic plan was to seal off the stricken areas and limit access to them by a perimeter of strategic roadblocks which the chief had selected. This larger disaster area was further subdivided into five separate zones, each with its own system of internal control points. By this means, control could be exercised over initial access to the disaster area, entry to the separate zones, and movement within the zones. One man in charge of each zone would check the course of search-and-rescue operations. Running progress reports and results would be consolidated on a master

record at police headquarters. When a street (and then a zone) was finally declared "Clear" after a final search, disaster workers would leave and a guard would keep it strictly closed. After that, nobody would be allowed inside on the first night, not even residents of habitable homes. The overall field operation would be supervised by the chief, and necessary equipment or resources would be secured through the mutual-aid towns. Property collection, road clearance and movement of debris would be organized the following day on a zonal basis. A strict curfew would be established, and a system of daily passes would allow progressively more liberal access to the zones. Perhaps the notable feature of the plan was the system for centralizing information.

The overall plan of control was quickly agreed upon and instituted. It was directed by the police chief with the assistance of three aides: the militia commander, the Shrewsbury police sergeant, and the councilman who had summoned the militia from Worcester. The police chief's office at the town center became disaster headquarters from which the improvised organization directed operations.

A detailed map of the town, containing every building and dwelling unit, became the central intelligence board. Road blocks were laid out, areas were zoned, and men were given assignments. The five residential zones were fairly distinct and the blocked roads which had to be cleared for operations were pin-pointed and opened.²

Organization was kept simple. Somebody was placed in charge of each zone and the work in each went on fairly independently of the others. Search-and-rescue parties covered whole blocks fairly systematically under loose supervision and direction. This was perhaps as much a process of keeping a close check on developments as giving detailed instructions. Sound trucks were used to make announcements in the field and give directions.

The police chief moved about in the field from one zone to another, keeping in touch with supervisors, giving directions and checking operations. He maintained radio contact with police headquarters, relayed information on work progress and needs, and coordinated some operations. His coordination of the work in different zones consisted largely of shifting manpower and equipment as work progressed and bottlenecks developed. He provided the major liaison among zones and between the field and headquarters. In one sense, he represented a roving, coordinating field headquarters.

In headquarters itself, work progress was continuously mapped. When a block was searched and declared free of victims, it was crossed off the map and a guard was established to keep it closed to everybody. At the same time, information was collected about all residents--from the field, from registration

lists, and from people at headquarters. This gave an additional check on missing persons and possible victims who had not been located.

In this fashion, the victims were rescued and evacuated, the stricken zones were steadily cleared, the channels of the mass assault were under observation, residents were eventually accounted for, and the entire disaster area was brought under guard to safeguard property. The key to the process was the systematic knowledge about what was happening in all parts of the field.

On the second day, the duties of the police chief shifted to more administrative problems: the collection of property, removal of public safety hazards and debris, road clearance, traffic control, scheduling shifts of police contingents on disaster duty and arranging to feed them, assisting the town Disaster Committee in damage surveys for state and federal relief funds, and supervision of the curfew and pass system which was instituted. As the initial rescue stage shifted to the emergency phase, political officials assumed increasing responsibility and leadership in community recovery.

Martial Law. On tornado night, some confusion developed over the issue of martial law. At a special meeting of the Disaster Committee, town officials took the unusual step of issuing their own declaration of "martial law." This declaration was quite beyond their authority and had no legal status because this power resides only in the Governor. Actually, after a hurried inspection of the disaster areas early in the evening, the Governor had officially declared a state of emergency in the entire path of the tornado. He authorized the state commander of the National Guard to mobilize the militia, to cooperate with and assist local authorities in clearing and policing stricken areas. But he did not declare a state of martial law.

While town officials may have been hazy about the process of a martial law declaration, what they intended vis-a-vis the police chief is equally unclear. They may have intended to place the militia in complete charge or they may only have sought to augment the police chief's powers.

Clearly, however, they regarded the National Guard as essential for order and an intrinsic part of the authority system. Their declaration and the presence of the large number of militiamen in town created the impression among townspeople that martial law was in effect and served to legitimize actions of the National Guard.

But whatever the effect on the townspeople, the announcement had no effect on the relations between the militia and the police chief or on the structure of authority in the field. The National Guard commander doubtless understood the legal aspects of the situation and declined the authority (and

responsibility) "conferred" by the Disaster Committee's declaration.

The legal factors in the situation may be quite secondary, whoever. If the Governor had actually declared martial law, this would have changed the formal locus of authority in town. But it seems probable that the de facto leadership and the effective authority would have remained in the hands of the police chief, even if exercised officially through the National Guard. That is, the local chief would doubtless have retained the major decision-making power.

Outside and Local Groups. This touches upon the larger problem of the relation of outsiders to local authorities. The National Guard and the other police groups had not simply been "ordered out," but originally responded to a direct call from the town itself. When they were assembled, the potential authorities included (1) a strong local leader without a significant professional organization, (2) a series of small groups of professional police, and (3) the National Guard with both competent leadership and a sizable organization. On their arrival in Shrewsbury, the various groups from the mutual-aid towns and the National Guard contingent all reported to Shrewsbury police headquarters and spontaneously accepted the leadership and authority of the Shrewsbury chief. The commander of the militia also issued explicit orders to his own men that they were to take directions from the local police chief, but from no other town officials. This occurred before the Governor announced that the National Guard was to assist local authorities, and their deference represented a spontaneous response of the militia and other police groups. The outsiders clearly acknowledged the integrity of the Shrewsbury chief, and, given this professionally competent local leader, they implicitly recognized the superior responsibility of local people. It is difficult to judge how authority and deference would have been structured if there had been no competent local leader.

The militia commander's deprecation of the leadership value of the other town officials indicates that private norms govern the relations among law enforcement groups, and these might have continued to operate within another formal system, such as an official declaration of martial law.

The actions of a second outside group add another dimension to the private police norms. On the afternoon following the tornado, a small Air Force contingent appeared in Shrewsbury, apparently to relieve the National Guard unit. They came without notice and without the knowledge or request of anybody in Shrewsbury, including the militia whom they were ostensibly to relieve. Nobody in town knew who sent them or had fathomed the mystery by the time of interviewing.³ In any case, the Air Force unit reported to nobody in town and contacted nobody in authority. They remained completely independent of local officials. Then, again without notifying anybody, they quietly left town that evening.

Though minor in itself, when this unit's action is juxtaposed with that of the other outside groups, it poses a problem. Since some outside groups did subordinate themselves voluntarily to local authority while another did not, then the factor of outside location cannot alone explain the data.

The outside organizations, however, can be distinguished by two variables which may account for their different orientations. Those who did acknowledge local authority were groups which were themselves embedded in local communities. The police were from other towns; the militia unit represented Worcester, and its members were all local residents. In contrast, the Air Force unit belong to the national military establishment. Its members shared no common tie with any community. As an organization, it had no symbolic identity with nor roots in a local community.

Furthermore, those groups with local community ties were also indigenous to the region. Many of their members had some informal contact with Shrewsbury, were familiar with the town or had friends there. The Air Force unit, on the other hand, had no contact with the town nor any ties with the region. This unit represented "remote outsiders."

The outside groups that were positively and negatively oriented to local authority can be distinguished by these two variables: community embeddedness and regional indigeness. Groups which are positive on both counts should show a greater involvement and identification with the local community, a greater involvement and identification with the local community, a greater respect for the integrity of local institutions, and therefore, a greater disposition to accept local authority.

These tendencies were perhaps reinforced by additional pressures in the situation. The Air Force group had a specific assignment of limited responsibility. The other outside groups entered a much more amorphous situation. The comprehensive authority assumed by the Shrewsbury police chief permitted the other police agencies of the region to limit their own responsibility in a situation of imperfect control. The Air Force unit was not faced with the possibility of such broad responsibility if there had been no decisive local leader. The regional groups were prepared to accept responsibility for the total situation if necessary, whereas the Air Force unit was not confronted with this prospect.

Our analysis suggest that the same two variables which predispose outside groups to subordinate themselves to local authority might also predispose them to accept full responsibility if no adequate local leaders are present. Both hypotheses might be investigated in future research. A fourfold typology of close and distant communal and non-communal agencies provides a framework for the analysis of outsiders' adjustment patterns.

Private and Public Interests. A final problem in Shrewsbury developed in the relations between the police chief and the disaster victims. It indicated that the authority of the chief was basically confined to the field itself rather than to disaster policy, and that as the rescue stage receded the authority of the political officials rose. This was made clear by the resolution of strong tensions which the curfew and pass system created in the heat of the emergency and for several days thereafter.

It also exposed a fundamental breach of community solidarity when public and private interests clashed in fairly irreconcilable terms. It brought out the different effects which disaster had on people with different involvement and responsibility. As a result, different values appeared among the victims, the field authorities, and the political officials.

The curfew and pass system had its roots in the search, clearance, and guard process of the first night when everybody except authorized workers and officials was denied access to the stricken zones. This restriction even applied to residents with undamaged homes in the area. Furthermore, outside the field, the curfew required everybody in town except authorized workers and officials to be indoors and off the streets after dark.

The system was planned so as to loosen controls gradually and liberalize access to the stricken zones. Residents with habitable homes would be permitted to use their houses after the first night, subject to the curfew. Other residents would first be permitted to enter cleared zones on foot to salvage what they could from their homesites. Later a resident would be able to take in his car for hauling. After this, he would be able to drive two friends or hired workers in to help him. Finally, he would be able to bring in helpers and a truck. Then controls would be removed. This plan of gradual decontrol was tentatively scheduled to take about a week if all went well.

The system was to operate with three categories of daily passes: one color for all residents; another color for permanent workers and people with continual, legitimate business in the areas (viz., utility repairmen, milkmen, postmen); and finally a pass with a new color every day for privately hired workers.

This rigorous control was based on the chief's decision that the most effective protection of everybody's property could be achieved by a cordon sanitaire which allowed only carefully screened people on inside streets during the day and nobody at all at night. He felt that this promised far greater control, especially at night, than more liberal entrance plus checks to make sure that the people within the area were all properly authorized. From his point of view, some personal sacrifices would maximize the protection of everybody's

property and minimize possible leaks in the system. Presumably, if nobody were abroad at certain hours, then nobody's scattered possessions would be molested. The minimization of possible leaks depended upon maximum control over access to the area.

Accordingly, the curfew and pass system was quite stringently enforced, especially on the first night when nobody could do anything in the uncleared areas except disaster work. Hence, residents were not admitted to cleared zones. Although they were able to occupy habitable homes from the second day (remaining indoors after dark), nobody could enter or leave restricted areas without passes. The control system operated roughly in the way it had been planned, just as the field operations had followed a very general plan.

But apparently public pressure forced a speed-up in the original time-table, for considerable friction and resentment developed. As the police chief indicated:

Then there were some other people who got a little bit excited because we didn't let them go in the first night to rummage around and see what they could salvage of their clothes and personal belongings. They were afraid of looters. Actually our system prevented looting.

Many local residents were concerned about their personal possessions---clothes, valuables, sundry papers and documents, furnishings, and objects of sentimental value. They wanted to get into the area to recover what they could, and feelings ran high.

After the first night, there were additional reasons to get into the zones after curfew. This typical account appeared in the local press:

As one guard answered a couple who blistered him with demands and threats that they need a change of personal clothing from a leveled area:

"Gee, lady, don't blame me--that's the order we got. Tell my sergeant, he'll tell my captain, who'll tell the commanding officer, eventually...."

This mild satire on bureaucracy indicates that the individual case warrants sympathetic understanding. Nonetheless, despite their sympathy with individual hardships, the guards defined their responsibility according to the viewpoint of the police chief. This was underscored by one National Guard officer:

Our orders are to protect the property of persons who suffered tornado damage, and

property that lies open to passersby.
means extra caution and all-out effort.

To the guard and his superiors, the scattered property is amorphous, anonymous, and impersonal. Responsibility is general and impartial. When residents are strangers to most of the guards who have no way of knowing what belongs to whom, there is no principle by which guards can distinguish between legitimate salvage (recovering one's own property) and looting ("recovering" somebody else's property). Consequently, the guards could sympathize with individual victims and still insist that the only practical solution lay in strict daytime controls and complete restriction at night.⁴

Residents, however, did not share this view and protested bitterly and vehemently. To the victims, the situation was intensely personal and the scattered property was not an unidentifiable mass. They objected to the curfew and pass system on various grounds--that it was enforced prematurely, that it deprived them arbitrarily and improperly of their rights, that it was too rigorous and severely administered.

Local VIP's represented a special case among the residents. They were people of considerable prestige, power, and influence. Apparently, some of them were locally prominent political figures who used political threats in trying to influence the police chief to relax the system. The chief, whose animus to politicians was open and pointed during the interview, unburdened himself in this fashion:

These goddam politicians were worse than the disaster itself. They thought that they were special characters and had special privileges coming to them. Some of them lived in sections which were badly hit, but their own houses were O.K. When they got tired of helping out about four o'clock in the morning, they figured that they'd go home to bed. While everybody else stayed on working. It was O.K. if they were bushed and really couldn't stay any longer. So they could go and get some sleep. But that didn't mean that they had to sleep in their own beds that /first/ night. These guys thought that when we wanted to keep the areas clear and keep everybody who wasn't working off the streets that this was a good idea for other people--for the next guy--but that this didn't apply to him. And they tried to raise holy hell with me for not letting them go into one of the areas so they could sleep in their own bed that night. One of them swore up and down that he'd have me for this. He threatened me that he was going to call the Governor. He is supposed to have an 'in' with

the Governor. I talked to the Governor when he came through here on the night of the tornado and he told me not to worry about these guys and go ahead and do what had to be done, that he'd back me up.

The access of residents to stricken areas is apparently an endemic disaster problem. No other community studied had the same degree of control as Shrewsbury and nowhere else was the means of property protection so vociferously protested.

The problem that this presents is why people cannot be reassured by strict controls which are calculated to maximize property protection. The answer lies in the risks which the program is designed to reduce as contrasted with other possibilities which the residents sense as operative and which prompt their anxiety and intuitive distrust.

The program of authorities is intended to minimize looting and pilferage by excluding unauthorized persons. Certainly residents are equally concerned about looting and theft. They may grant that such a system may restrict looting, but does not eliminate other causes of loss which the guards cannot control. Such leaks might include the destruction or loss of items from necessary search or clearance operations, such as bulldozers moving debris. Wind can blow loose papers and documents away (after all, a big wind did all the damage to begin with). Rain and dampness can ruin fabrics or furniture, not to mention watercolor paintings. Then there are possible defects within the official system, such as unreliable neighbors or guards who themselves might be tempted by loose items. And, of course, there is the possibility of literal leaks in the system--looters who elude guards or come in as authorized agents. Residents are aware of such imperfections and they are anxious. They cannot acknowledge the system to be foolproof against additional loss, whether from looting or other uncontrolled causes. The system manipulates statistical probabilities, but can give no personal guarantee. Consequently, residents want to protect themselves from all contingencies, to eliminate rather than minimize further loss.

Ultimately, these conflicting interests of private individuals and public authorities became fairly inflexible and irreconcilable. The conflict between the police chief and the residents was compromised by reducing the transition period. For several days, in the face of mounting protests, the chief stood firm in his insistence that strict enforcement of the curfew and pass system was necessary. Despite the pressure of residents and the protests of locally prominent individuals, he adhered to the basic plan. But three days after the tornado, the political pressures became too great and a permanent pass system supplanted the daily passes which had been in use. The chief claimed that after the initial excitement (when the basis of protest was removed), people came to appreciate his perspective. He asserted:

We had to protect these people against themselves. After a couple days /passed/ and these people had a chance to cool off, some of them came to me and thanked me. They thanked me for protecting them against themselves. One woman said to me, 'I was furious with you for not letting us /go/ in, but I see now that we were our own worst enemies.' They began to realize afterwards that their belongings were safer when nobody was let in, and everybody had to be in off the streets by a certain time instead of wandering around.

While the chief reported that the modification of the pass system was his own decision, we may assume that the dissatisfaction and pressure of the residents were decisive forces. Probably more skillful public relations by the chief could have eased the curfew and pass situation--if he had been concerned with public relations. Possibly his animosity against politicians included a more general class prejudice against the well-to-do families in the area. The rigid enforcement of control exacted their conformity and may have been an exercise of police power beyond operational necessity. Possibly the protection of a working class neighborhood might have been more liberally applied.

The protests of the residents were expressions of private individuals rather than organizational challenges. They objected to specific decisions and the chief's mode of exercising authority rather than his right to do so. If the opposition had developed within an organizational framework, it might have directly challenged his further right to exercise authority. Future research might examine authority challenges based upon such policy conflicts.

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In summary, the outlines of Shrewsbury's authority situation were simple and straight-forward. The police chief took firm control of the situation, mobilized and built an organization from local and outside groups who accepted his decisive leadership and authority. The public friction and pressures did not significantly challenge his authority or affect his position, but ultimately obliged him to moderate his policies.

Of the four towns studied, Shrewsbury provides the clearest close-up of the ground-level leadership in operation within the field itself. In the next town, Holden, we will have a good view above the ground-level, especially of the broader organization of resources in support of the field operations.

Social Services

The welfare needs brought about by the tornado in Shrewsbury were considerable, if not severe, for a small town. Official agencies launched their aid programs quickly and effectively,

but welfare needs were met mainly on a private basis by victims themselves and by spontaneous mutual aid in the community.

Because Shrewsbury had no hospital, casualties were evacuated to other towns. Consequently, data on the number of casualties are not accurate. The best figures indicate that Shrewsbury suffered fewer than ten deaths; about 200 people were injured, 40 of them seriously. If the experience of the other towns in the study is any criterion, almost 100 of the injured may have required hospitalization the first night. Similarly, there are no accurate data on the number of people left homeless. But since 200 dwelling units were destroyed and another 100 damaged, many of them in need of major repairs to make them safe, Shrewsbury almost certainly had more than 1000 people homeless the first night.

When the tornado passed, the local chapter of the Red Cross was quickly activated and it moved swiftly to mobilize its social service program. Town officials allowed the chapter to take over a modern public school building for use as the emergency Red Cross headquarters and disaster relief center. The building was new and well equipped. The organization concentrated all its social services there: feeding, temporary dormitory housing, clothing distribution, etc. Women in the chapter who took over feeding in the school cafeteria claimed that they began to serve meals an hour after the tornado.

When the tornado had passed, local doctors immediately went to the aid of victims. After the first crush of rescue work and emergency aid in the field, several doctors set up an aid station in the local Grange Hall. This station was soon integrated into the Red Cross program and another first aid station was set up at disaster headquarters. A staff of six local doctors manned these two stations.

On the night of the tornado, an emergency meeting of town officials was held at the school which was the relief center. There the Red Cross was designated as the official agency to direct the disaster relief program. There were no demurrers or objections to the authority of the Red Cross. The appointment simply formalized the de facto situation.

Public announcements urged disaster victims to register at the relief center. But spontaneous self-help and mutual aid throughout the community limited the services rendered by public agencies. In general, services of the Red Cross were used more by volunteer workers in the disaster than by victims. National Guardsmen and other volunteers were the main beneficiaries of dormitory facilities and feeding.⁵

The Red Cross could provide no information on the number of victims billeted in the dormitory or the number of homeless for whom it found other emergency housing. Usually the organization furnished detailed figures on its significant disaster services. The unavailability of these figures in Shrewsbury

indicates that the services to victims were comparatively limited. If the experience of Holden, where a comparable number of people was made homeless, is applied to Shrewsbury, the public housing of victims would have been inconsequential. If Shrewsbury's pattern is typical, then victims apparently arranged their own accommodations without recourse to official agencies. This would explain the generally low demand for public social services.

Social services were also furnished by other public and private groups as well as anonymous community members. For example, the night after the tornado Civil Defense announced that food, bedding, and medical supplies were available for distribution at the town center. Three or four days after the tornado, the Air Force flew in three tons of bedding, clothing, and medical supplies for Shrewsbury, and Civil Defense picked up these supplies for the Red Cross. Part of this shipment was distributed by Civil Defense which served, in effect, like a Red Cross depot.

In addition, the fire and police departments distributed food at the town center, a large private estate was opened as an emergency housing facility, several impromptu canteens were maintained by churches and others, and on the morning after the disaster one church provided a day nursery for children in order to free parents to attend to pressing disaster affairs. As mutual aid in the community, these separate activities were also limited, although together they probably exceeded the total Red Cross services. But this other mutual aid was no reflection on the authority of Red Cross because no other group formally assumed full responsibility for the welfare of all victims. Thus, authority was never in doubt.

In summary, then, the major social service agency in Shrewsbury was the Red Cross whose responsibility and authority were universally acknowledged and legally affirmed. Other public and private groups furnished relief activities which supplemented those of Red Cross, and this mutual aid probably reached the victims more effectively than the Red Cross services. The authority of the Red Cross, however, was recognized by everybody.

FOOTNOTES

1. Some years earlier, the chief had been honored when the townspeople took up a public collection to send a team which he had coached to compete in the Olympic Games.
2. There is a common assumption that maximum mobility is equal to optimum mobility, and hence, that all blocked roads should be cleared as soon as possible. Road clearance also creates entry channels and control problems. Some blocked roads which are unessential for operations provide valuable natural barriers, and manpower may be freed by leaving them uncleared during rescue. But accurate survey work is necessary to judge which roads can be used in this way.
3. They might have been sent by Worcester Civil Defense officials who did not know what to do with one Air Force unit which appeared on the morning after the tornado.
4. Presumably during the days guards would be just as incapable of distinguishing between looting and salvage by unfamiliar people with passes. But night complicates the problem and deprives guards of some available checks.
5. The police chief made it his private responsibility to feed the local police auxiliaries and police reinforcements from the mutual-aid towns. His task was eased by various donations, including a ton of steaks flown in by a New York newspaper the day after the tornado, and these were supplemented by a second shipment within a week.

Chapter IV

HOLDEN

Holden is the second suburb of Worcester in our study. Although somewhat smaller than Shrewsbury, the town was similar and suffered as severe or slightly more losses. Ten people died and there were about 200 casualties. About 100 people were hospitalized, forty of them with major injuries. Close to 400 dwellings were affected; almost half of these were completely demolished and about one-third sustained major structural damage. Over 1,500 people were left homeless by the tornado.

On a central square at the heart of town stood the Town Hall, municipal offices, and two of the main churches. Nearby were other churches and the fire station. After the tornado, the spontaneous responses of community members were focused upon this town center and all community services were organized there. The Town Hall and the adjoining buildings became the rallying point of the community. Consequently where Shrewsbury's disaster mobilization followed organizational lines, the activity in Holden had a distinctly communal character. It reflected membership in the community rather than affiliation with an agency. We will later consider this fundamental difference between Shrewsbury and Holden.

Overall Field Authority

While the effects of the tornado were roughly similar in the two towns, Holden was in worse straits in relation to its resources and needed even more outside help than Shrewsbury. Holden had a small district hospital of some 60 beds with which to cope with over 200 casualties. While Shrewsbury "exported" all its medical problems, Holden authorities could not similarly shed medical responsibility. Assisting the hospital became a major concern on the first night. Thus, Holden could not limit the range of problems which it handled.

Holden had a smaller municipal establishment than Shrewsbury, with a police force of only one full-time constable and a few unpaid, part-time volunteers. As a non-professional group, it was not particularly qualified to deal with emergencies, and the police constable did not have the personal leadership capacity which distinguished the Shrewsbury police chief. The other municipal services and staffs were equally restricted.

Against these limitations, Holden had some positive resources. The crucial factor was the presence of a state police post on the outskirts of town. This was a source of manpower, leadership, and communications. The telephone system was completely inoperative, both within the town and to the outside. But through its police car and fire truck, Holden had radio contact with the mutual-aid association to which it belonged. This radio link was supplemented by the radio network of the state police.

In addition, the town had a small, but viable Civil Defense with an energetic leader. Under his direction, a program of advance planning bore some modest, but visible fruit when the tornado struck.¹

While the agency was by no means a professional emergency organization, it was a nucleus for the mobilization of the town's energy. It was neither adequate to the disaster, nor completely helpless. To the extent that any local group could act for the town, Civil Defense was the most capable of furnishing leadership.

Thus, while Holden had no local leader comparable to the Shrewsbury police chief, it did have the local state police post and a small, but viable Civil Defense group. A loose dual authority system developed. The state police served as an independent "umbrella" which covered the town organization. They collaborated with local leadership, but did not defer to it; they encompassed the town structure, but did not absorb it or destroy its identity. In turn, the town organization consolidated around Civil Defense.

Although a large reservoir of outside manpower was available, nobody from other outside agencies occupied a leadership position or was important in the dual authority system. The authority problems of Holden center on the state police and the town.

* * * * *

Then the tornado broke, the familiar patterns of spontaneous rescue and mass assault quickly developed in the stricken areas. The non-injured immediately began to help family members, friends, and neighbors and rushed them to the Holden District Hospital in trucks, cars, station wagons, etc. Nearby volunteers also rushed into the area to help.

The town and the Holden State Police immediately went into action independently. They both flashed word of the disaster to the outside, the state police over their private radio network and the Civil Defense director over the mutual-aid association channel.

At the Town Hall, the Civil Defense director held a hurried consultation with some aides and the mayor. He stationed the Holden police car at Town Hall to provide for communication with the mutual-aid towns. Then he went to inspect the stricken zones in order to get a picture of the tornado's effects. He spent about an hour on a survey of the field and helped in the hunt for a missing baby. On his return to Town Hall, he divided the disaster area into its four natural zones and assigned one aide to check on operations in the field. A system was worked out for dispatching volunteers who reported at Town Hall.

The commander of the local state police post assigned men to various sections of the stricken area. The organization worked four radio-equipped cars into the four natural zones and these were virtually fixed stations to be used for communications within the field and to the post. The state police tried to give as much direction and leadership to the mass assault as possible. They plunged into rescue and evacuation, attacked bottlenecks and obstructions, and tried to untangle traffic. But above all, operational information flowed steadily over the field radios with reports of the ground situation, accounts of action being taken, and a running analysis of emergencies.

The Framingham post of the state police, 20-25 miles from Holden, was the organization's district headquarters. They picked up the first word of the tornado and started a general mobilization of personnel and resources in the region. The district commander, a captain, left some general instructions and immediately set out for Holden with a detail of men. They were delayed by numerous traffic jams, and the trip took a little more than an hour.

The radio traffic of the Holden post and its cars in the field could be monitored by the Framingham post and by all state police cars within receiving range. Accordingly, en route to Holden, the Framingham commander carefully monitored the radio communications in the field. From this, a picture of the operating situation gradually emerged. The information reflected field conditions fairly uniformly and comprehensively. On the whole, the flow of communications was one-way. There was very little communication to the Holden men, but the communications within Holden were closely monitored from the outside.

On the basis of this information coming from the field, the Framingham post took action to support operations. Framingham did not wait for specific requests from the field, but the men judged what the situation required and mobilized equipment, supplies, and personnel from the entire area. The post sent these resources to Holden in steady waves. For example, it was clear from the outset that Holden Hospital was swamped.² Accordingly, the Framingham State Police recruited doctors, nurses, and ambulances and sent them in. They took help mainly from smaller towns in the region to avoid draining the resources of Worcester. The Framingham post became, in effect, the strategic rear base.

Meanwhile, the field representative of the town tried to keep track of operations and inform the town of progress, bottlenecks, and needs. Because the small organization had severely limited communications facilities and could not cover the spread out zones, only a spotty picture could be relayed to Town Hall. But they struggled along as well as possible. On the basis of the little information which he could pull together from his aides and people coming in from the field, the Civil Defense director requested help from the mutual-aid towns.

Localized attempts by Civil Defense to direct work in the field were ineffective. The small agency was inexperienced and had little organization with which to operate. The Town representatives were also anonymous in the field. Help from the neighboring towns was not organized under town supervision as in Shrewsbury.

The arrival of the state police commander from Framingham little more than an hour after the tornado permitted a more systematic division of labor in the field. With two ranking state police officers, one could be in the field at all times without trying to cover both the field and the post. The Holden captain then took a more active role in the field, staying with the ground operations and solidifying the liaison with the town. It was also from the reinforcements of outside state police and other groups that the state police cemented the four fixed cars in the

four zones. They stationed one patrol car at the hospital, another at Town Hall, and kept several others cruising through the town and the stricken areas to provide mobile coverage. The state police communications system was comprehensive. It provided the town with its first systematic field coverage, with links among the major operating centers (Holden post, Town Hall, and Holden Hospital), and with numerous outlets to the Framingham post and the outside. The Holden captain maintained liaison directly with the Civil Defense director, sometimes through the state police car stationed at Town Hall for this purpose. Requests for anything which the town required could be channeled through the state police network.

While the Holden captain tried to coordinate operations on the ground, the Framingham commander took over the local state police post and the larger strategic organization. With the help of state police who were coming in, he extended and tightened the perimeter of roadblocks which had been hastily started before his arrival. In less than two hours after the tornado, the entire Holden area was effectively sealed off, and thereafter a tight control was imposed over entry to the stricken zones.

The large supply of outside help, including that mobilized by the Framingham State Police was balanced by regulating access to the field. As much as possible the outside help was routed from various approach roads to the Holden post. All entry at the perimeter was controlled under directions from this post.

The admittance of help was regulated in accordance with the developing field situation. The Framingham commander kept a close check on operations. He made personal surveys of the stricken zones and the town. This supplemented the radio traffic in the field, helped to keep a check on possible trouble spots, and revealed developing needs. Holden Hospital was a regular point on the captain's itinerary for two days. Thus, the captain maintained a strategic overview of the situation which was necessary to integrate action in the field and outside.

On the basis of these surveys, he determined what outside help should be admitted and could assign it to various parts of the field. This included the assignment of state police reinforcements who were expected to operate at ground level without further supervision and detailed direction, but with a maximum of flexibility.

Thus, outside resources were committed to the field as long as they were needed. When the field was adequately supplied with a particular kind of help--whether doctors, private volunteers, bulldozers, rescue teams, municipal police groups or whatever--the further entry of this assistance was cut off. The Framingham post was also informed, and that particular type of assistance was no longer recruited. Some of this surplus help was kept in reserve at the perimeter, but most of it was sent away.

The field surveys also revealed the need for highly specific items which were then sought by the Framingham post. During the first night many needs involved specific medical supplies for Holden

Hospital. On direct requests from the field, the Framingham post became an emergency-locator center, arranging, for example, to have blood plasma and sundry antitoxins sent from an army base. Specific non-medical requests were similarly filled. This service tended to be fairly quick and most items were delivered in the field within an hour after they were ordered.

At the Framingham post, several other things happened with the information which came out of Holden. The state police managed to fill a breach in the state Civil Defense organization. Except for the state police, Holden was completely isolated from contact with the regional and state Civil Defense organizations which were responsible for helping such small towns in the event of emergency. But the headquarters of the state Civil Defense adjoined the Framingham State Police post. Periodically, the Framingham State Police informed the state Civil Defense of the general field situation and the action which had already been taken. These summaries were almost in the nature of the courtesy service because they were too late to be operational messages on which the state Civil Defense could act.³ In this sense, the state police not only took the strategic action for which Civil Defense was formally responsible, but also bridged the gap in that agency's own communications system.

Aside from the immediate mobilization, the Framingham post also took an inventory of regional resources that might possibly be needed. They alerted suppliers of specialized services and facilities to stand by on call. These reserves included hauling and construction equipment, fire-fighting groups, mobile feeding companies, agencies with specially trained rescue or first aid teams, and the Civil Air Patrol.⁴ They checked facilities and bed space at hospitals in the town of Framingham, a nearby army base, and elsewhere in case an overflow of patients from Holden Hospital would have to be absorbed in the district.⁵ The post located emergency housing space (including a nearby bowling alley) and a place to get cots. The operation of the Framingham post involved many contacts. Its incomplete telephone log for the first six hours covers five pages of single-space typed entries which read like a random sample of services from the classified telephone directory.

In the field, it was not possible to provide a great deal of positive direction for the mass assault. But the state police kept a number of trouble-shooting teams free and shifted them around to special problems that were developing and to bottlenecks in the channels through which the mass assault churned. The effectiveness of these mobile teams rested on the flow of information from all parts of the field so that threatening trouble spots could be handled before they became major problems.

Once the state police were organized, the town became increasingly dependent on them. The Civil Defense aides in the field kept in close contact with them, used their radio to plug the communications gap between the field and Town Hall, and assisted the state police in the field.

The local agency's greatest asset was its knowledge of the town and the townspeople. Civil Defense was able to bring the accounting

for all residents into order. As in Shrewsbury, a detailed map which showed each building in town became the master intelligence board. As rescue work began to taper off, each zone was systematically searched and a close check kept on results. Information on each casualty and the damage suffered by every residence was sent to Town Hall. Data were also collected from the hospital, from neighbors and relatives of missing people, from victims registering at Town Hall, from workers and townspeople. A thorough house-by-house final search was then conducted under the joint supervision of the state police and Civil Defense representatives. The field reports and other information were collated until a complete picture was pulled together. Within 12 hours after the tornado, every resident was accounted for except one missing baby who was not found for three days.⁶ Knowledge of the local community was vital in accounting for residents; systematic coverage in the same period of time would be almost impossible in a big city.⁷

The flood of outside help came steadily during the rescue stage, at first from nearby towns and later from more distant places. Many of the separate groups were fairly small, few of them exceeding a dozen or a dozen and a half people. Their cumulative effect, however, was great. With private volunteers, they probably totaled several thousand people--for the town served about 2,000 meals daily for a week, mainly to disaster helpers. The public groups included various police and military organizations, including the National Guard, a state police contingent from a neighboring state, municipal police groups, Air Force and Navy personnel, etc. There were various state departments (Public Works, Conservation, Road Commission) and sundry other groups (fire department, Civil Defense teams). There were also representatives of private organizations.

While 200 State Police saw disaster duty, the next largest single group was the National Guard with two companies (about 100 men). The militia entered Holden on assignment and its role was limited and clear cut. They followed the Governor's mandate rather literally and assisted local authorities in policing damaged areas. Their activity was apparently restricted to patrol and guard duty in the stricken zones. They assumed no broader responsibility or authority. The National Guard cooperated well with local officials and with the state police, accepted the direction of both without working actively or closely with either. In view of the active role of the National Guard in Shrewsbury, it is noteworthy that the militia units in Holden were not from the nearby area and had little familiarity or ties with the community.

After the rescue, evacuation, and final search had been completed, and when the hospital had been stabilized, the rescue stage gave way to the emergency phase. The shift from an "action" to an "administrative" period was accompanied by a shift in the balance of leadership and authority. Then the town and Civil Defense organization became more active and the state police more supportive. The town was now more qualified to assume leadership and the state police were no longer so crucial, although the town depended upon their counsel and assistance. But the town officials took the major responsibility for decision-making. They planned a work program, scheduled work

crews, arranged a pass system, and managed the removal of hazardous damage, the clearance of roads and debris, the collection of property and valuables strewn about by the storm, the feeding of disaster workers, the search for the missing baby, and the counseling of disaster victims. By the second or third day, virtually all outside work groups were organized on a scheduled basis, and few appeared without prior arrangement with the town. Thus, as the crisis subsided and sheer survival did not depend on the adequacy of local officials, the town resumed control and its leadership and authority were universally acknowledged.

Symbolic of this authority was a special information newsletter which the town issued for the residents on the day after the tornado. No copy of this document could be found during the research. Presumably, however, it contained various official notices about pass procedures and available aid, progress reports on disaster work, and an outline of future plans. Procedures were suggested for filing insurance claims. Residents were also cautioned against the attempts of "outside profiteers" to capitalize on the tornado. The Civil Defense director pointed out:

Workers who come in here trying to sell their services are not welcome. There's a house up on... Street, badly hit, where a woman still lives. A man came in trying to high-pressure her into letting him remove an overhanging limb for fifty dollars. We have the men to do that kind of thing ourselves as a service.

This news sheet was organized not only to give information but also to reassure people and relieve their anxiety. Officials tried to impress people that the disaster itself was over and its effects were quickly being removed, that the situation was under control, and that the town authorities did not view the emergency impersonally but were deeply concerned with the victims' feelings. As the director indicated:

We wanted these people to understand that this thing hit all of us. Even though some of us weren't hurt or didn't lose our home, still we were in this thing and we cared. We cared deeply about what happened.

These sentiments illustrate the tone of Holden's communal response to the tornado. While officials were busy with concrete problems, they were also concerned with community morale. Their preoccupation with the disaster went beyond the most effective work solutions; they felt involved in broader terms. This contrasts with the emphasis in Shrewsbury where morale and community solidarity were subordinated to questions of rational problem-solution. The research disclosed no public resentment over the exercise of authority in Holden.

* * * * *

In overall perspective, the authority system in Holden varied with the stage of the disaster. During the rescue period, the state

police provided the major leadership and authority which the town officials then took over after the sheer problems of life and death were safely under control.

The town operated close to its maximum potential, but its powers were clearly unequal to the demands of the situation, and it had to rely heavily on the state police. They were unquestionably the decisive factor in Holden. Although their direct and immediate control over events in the field was limited, they influenced these events indirectly to an appreciable degree. They approached the disaster comprehensively and handled some strategic problems effectively. Their organization and normal operating procedures furnished competent leadership. The organization was large, well-equipped, and well-trained; it had experience and the men worked well together. It was a large professional organization with a rich communications system. This gave the state police a comprehensive view of the situation and allowed them to grasp its overall dimensions as well as its flurried details. Even with the help of people from various agencies and surrounding towns, town officials could not muster such an integrated organization.

Accordingly, the state police helped the town, but clearly kept their own autonomy during the rescue stage. The town officials and agencies were, in effect, significant people whose needs were incorporated into the state police operations, but who were not regarded as superior leaders. The interest and responsibility of local people was acknowledged, but their competence was not relied upon. The state police viewed their relation to the town as furnishing the help which local people could not provide, almost in the role of "protective big brothers." Thus, they kept in touch with the town's needs and the activities of its officials, and they took these into account as "operating data" in their own calculations and operations. But the state police firmly retained their autonomy, and their leadership gave them authority.

The collaboration of the two groups was harmonious, but they had a different significance for each other. The town officials described their liaison as central, almost as a continuous consultation; the state police referred to their contact as intermittent and peripheral. The Framingham State Police captain observed:

We had to come in to help these people. There was no question about it. They couldn't manage themselves. They had some good people in there. We kept some track of what they were doing and tried to give them any help they asked for. But, mainly we went ahead and made sure that things got taken care of. When the worst of it was over, they pretty much took over again and we gave them whatever help they needed.

On the other hand, town officials made no pretense about their dependence, and their horizon was dominated by the state police. The Civil Defense director asserted:

I'll tell you, these guys were wonderful. They moved right in and really took hold of things. This thing was too big for us by ourselves. They knew what they were doing almost by instinct. They got plenty of men in here, too. And another thing, they knew how to work together. We got the best cooperation in the world from them. Anything we asked for or needed, we got. They always had a man sitting right outside the door and one over at the hospital, and Capt...was in and out /of the Town Hall/ all the time. The State Police saved our lives. We would have been lost without them.

Thus, in their images of each other, the state police loomed much larger to the town than the town appeared to the state police. This was an accurate reflection of their relative leadership and authority during the rescue phase.

In this stage, the determinates of authority were similar in Holden and Shrewsbury. In both towns, professional police had the highest field authority, predominating over semi-professional police (National Guard) and amateur civil agencies (Civil Defense). In Shrewsbury, the dominant authority was local (police chief) while in Holden it was non-local (state police).⁸ Hence, in accordance with our original expectations, sheer professional competence and leadership determined authority. In neither town did professional leadership defer to the authority of a semi-professional or non-professional group.

Martial Law. Nonetheless, although the operating authority system in Holden was fairly clear, the town had a "pseudo-martial law" episode on tornado night. At a special meeting of town officials, a state of emergency was declared. Although it was not formulated in terms of martial law, a Worcester newspaper reported that on the second night, about 24 hours after the disaster, a sound truck cruised through the Holden area with the announcement, "This area is under martial law. Unless you intend to stay the night here, please leave." Although newspaper accounts of the tornado contained frequent errors, this incident was not the figment of an overworked reporter's imagination. The research could not establish who was responsible for the martial law announcements. The town officials did not know who initiated them, but they did nothing to stop the announcements once these began or to correct the error.

The "private" declaration of martial law is inherently ambiguous. Certainly the strictly legal aspects of the situation are of minor interest. Indeed, only one police informant in the present research even used the term, "martial law," correctly. The others used the expression to refer to a vague, grave emergency in which anybody wearing a uniform could arbitrarily force those not in uniform to comply with their orders. Regardless of its legality, any martial law announcement may well have several effects. Sociologically, it:

1. Publicly establishes the undifferentiated authority of the uniformed over the non-uniformed.
2. Notifies the police groups that they have virtual "carte blanche" powers in enforcing their control.
3. May crystallize the latent problem of dominance among police groups so as to:
 - a. intensify existing power conflicts, or
 - b. precipitate conflicts in a smoothly working system,⁹ or
 - c. help clarify an amorphous authority structure.

In Holden, the announcements had none of these effects because the system of authority was always clear and stable during the rescue and emergency periods. The shift in authority was orderly. Future research might note the conditions under which real and fake martial law situations generate or resolve confusion and strain.

Outside and Local Groups. How did the outside organizations respond to the authority structure during the rescue period? The pattern is not as clear-cut in Holden as in Shrewsbury where the primary authority was a local figure. In Holden, the leadership of the state police was generally acknowledged and its decisions accepted. This was reinforced to the extent that the town had no effective leaders of its own in the field. In effect, then, there was no real choice between the town and the state police in the stricken zones.

Although the data are not sharply patterned, outside groups seemed to have different orientations to local authorities. Those which came earlier were mainly from small neighboring communities and from state agencies with stations in the region; they were the most likely to report to local authorities at Town Hall on their arrival in Holden. The later groups were mainly from outside the region and from larger cities; they arrived after the state police had sealed the perimeter and simply accepted the state police as the field authority. On the basis of the Shrewsbury data, we would expect these early groups to have a higher preference for local authorities than the late arrivals, and this tended to be the case. But, because of the state police perimeter in Holden, the chance to express a preference varied with time of arrival. The early groups could make a choice and the later groups could not. This reinforced the results in the expected direction. Consequently, contrary findings did not have an equal chance to appear. But we would speculate that the actual results are in fact not spurious and that the orientation of outside groups would follow the observed patterns.

The Town Authorities. Authority within the state police was clearly structured by the hierarchy of the organization. We have also seen how the "umbrella" structure developed between the agency and the town. We have yet to review how authority within the town was consolidated about the leadership of the Civil Defense director.

Of the public positions in Holden, only three contained enough responsibility for the person potentially to assume overall field authority on behalf of the town. They included the mayor, the police constable, and the Civil Defense director. When the tornado passed, the Civil Defense director immediately assumed active leadership, and the mayor and the police constable supported him. The mayor played the role of the responsible political official who had no emergency competence, but who could lend special assistance. Accordingly, he neither stood passively aside nor did he attempt to direct operations. He stood by at Town Hall to assist the Civil Defense director and to help implement decisions. His knowledge of the community and the region was valuable in locating sources of help. He was also able to reassure the director by authorizing any possible expenditures for disaster services, a power which the Civil Defense director did not have. The latter reported:

He /the mayor/ stood right by me all the time. Whenever I needed something that we didn't have, he'd say, "OK, get it. Don't worry about the money. I'll worry about that. You just get anything you need and tell them to bill the town."

You see, Civil Defense didn't have any funds, and there was the problem about who was going to pay for some of this stuff. Most things we never were billed for. And I suppose if he wasn't there, it wouldn't have made any difference. We would have just gone right ahead and gotten what we needed anyhow. He was just great. Not just about authorizing money either, but other things, too. He was always there with just the kind of support you needed. Sometimes he'd know about where to get ahold of something or somebody. He really took some of the responsibility off your shoulders. We were just too damn busy to worry much about some of these things. But because he was there, you didn't even think much about them. You knew he was behind you 100% and whatever you figured had to be done was O.K. It just gave you confidence. Another thing, he wasn't just butting in. He had some good ideas, too. But he didn't keep getting in the way. He was a real help, just great. Cooperation was wonderful.

The mayor's support was typical of the attitudes of other local people. This helped to dispel any possible ambiguity in the Civil Defense director's position. The prominent role of the Civil Defense was not arranged in advance, but developed out of the immediate events. If the police constable had been an equally qualified leader, the authority system might have consolidated under his direction. As it was, the potential authority of Civil Defense actually materialized.

The mayor may have been decisive in converting the director's leadership to real authority. His presence and assistance legitimized the director's actions and probably stabilized the latter's authority

beyond the rescue phase. Although the director discussed the mayor's support on tornado night, he did not refer to it for the subsequent period. Apparently, after his position was established during the critical first night, he was able to exercise his authority decisively without the mayor's further reassurance.

Thus, the predominance of Civil Defense in the town was based on its potential legitimacy, the pressing need for leadership, its provision of leadership, the absence of competing leaders, and the mayor's firm support.

The State Police as an Operating Organization. The state police show the coordinated functioning of a professional organization. As a base for improvisation in emergency, its well-defined roles, and mutual expectations cannot be equalled by a small, inexperienced group.

The state police functioned with a minimum of detailed supervision of its men. People at different levels were largely expected to work without immediate direction. This emphasized the clarity of operating norms throughout the organization which was epitomized by the one-way flow of communication and the informal division of labor: the Holden men bore the brunt of the ground-level work, the Framingham commander took over the field headquarters, and the Framingham post became the outside support base.

The integrated mode of operation was taken for granted. The men in Holden communicated with one another with the expectation that their radio traffic would be monitored by the Framingham post where appropriate supportive action would be taken. This contrasts sharply with the expectations of the Civil Defense director. His messages to the mutual-aid towns were requests for specific items. He had no idea what would happen with these requests or how they would be handled. The outside people were simply unknown quantities. The state police in the field made few requests for specific items. Their communication was an operational description of the situation. Essentially, they knew what was going to happen with this information at the Framingham post. They communicated from the field as if their responsibility were to supply information to a system which was set up to mobilize support. They simply assumed that the Framingham organization would do what was necessary outside the area while they themselves did what was necessary within the area. These common expectations and the free flow of communications supported the informal division of labor.

This reliance upon independent judgment and operating initiative stamped the organization throughout. It is based upon the occupational norms which guide the training of recruits to the organization and which are reinforced in their routine work. The Framingham commander explained:

When I left here to go to Holden the men in the post knew what had happened. They knew what to do. I didn't have to tell them or give them orders. They knew what to do in a situation like that. And everybody is expected to do his job without getting flustered or needing a lot of supervision. I didn't worry

about what was going on back here after I left. The men in Holden didn't have to worry about asking us to come in /to help/ or waste a lot of time talking with us. They knew we were listening to them /monitoring the radio traffic/. The men who were off duty came in by themselves when they heard about it. Now the tornado was pretty extreme. Normally we don't have to deal with anything this bad. But we learn to take these things in stride, the unexpected, you know. That's our job--to take care of things without being told. Well, when a man joins that state police, he has to learn to use his own judgment and initiative. We can't have someone standing over him telling what to do all the time. He has to learn to figure things out in a situation and size it up and do the right thing. This is the way we train our men and this is how we work. All our men can be depended on. They don't sit around waiting to be told what to do.

By this token, the Framingham post performed several functions without direction: (1) mobilizing resources and sending them into Holden for immediate use, (2) locating specific items which were requested, (3) taking an inventory of selected resources in the region against the possibility of future need, (4) keeping high eschelons of Civil Defense abreast of the field situation. The first three functions revealed an intimate knowledge of the region.

Their operation showed two other characteristics. First, they approached the mobilization of resources in broad, strategic terms. Second, the communication logs show that the state police consistently turned directly to specialists and experts for highly refined skills, equipment, and services. When they did not know or could not reach particular specialists, they turned immediately to intermediaries. These were frequently local community or agency leaders who, as "local contact men," were depended upon to find the necessary help in their communities or organizations. The specialists themselves were often "specialists" in their knowledge of primary sources of help unknown to the state police.

The overall operation of the state police demanded a refined, integrated organization with clarity of role expectations, independent responsibility built into these roles, and a high sense of personal identification with the organization.

Strategic Supply. Holden showed very clearly that the volume principle of "wave supply," depends on several conditions for its effectiveness:¹⁰ (1) It demands an abundance of resources in an area and may not be possible when these are scarce. (2) There must be few stricken areas competing for these resources, or the stricken zones must be fairly concentrated to allow the rapid shifting of

resources as needs change. (3) Wave supply can only be effective when it is complemented by the control of access to the field. The over-concentration of surplus resources in congested zones becomes highly disruptive, particularly when clumsy, massive equipment (such as bulldozers and cranes) is involved.

In Holden, these conditions tended to be met, largely through the operation of the state police. Their mobilization and control of the flow of resources was perhaps the most effective aspect of their work. Nowhere in the Worcester region did one town suffer from scarcities because resources were diverted to surfeit another stricken place.

The Choice of Operating Arena. Perhaps the only remaining question about the disposition of resources concerns the choice of operating arena by the state police. They focused all their energies on Holden and gave no assistance to Shrewsbury. It is not clear why they made Holden almost their private responsibility and gave Shrewsbury no significant help. Why did they not divide their help between the two towns on some basis?

The decision cannot be accounted for by differences in the tornado's impact on the two towns. Casualties and damage were roughly comparable, and despite the differences in their size, there is really not much to choose between the emergency resources of one suburb of 6,000 population and another of 10,000.

The dilemma is sharpened by the fact that the Framingham captain actually passed through Shrewsbury on his way to Holden. Subsequent to the field research, it was learned that before continuing to Holden he had inquired about the local situation in Shrewsbury and was reassured that things were under control. The time schedule, however, indicates that he passed through Shrewsbury before the National Guard arrived (and the Shrewsbury people did not know that the militia were coming). The gaps in data at this point are, of course, perilous. But, from all indications, it seems probable that the situation in Shrewsbury had not yet been stabilized by the time the state police passed through.

If we momentarily assume, then, that Shrewsbury could have used help at this time, this would imply that completely different perspectives governed the operating judgments of the state police in their choice of arena. The selection of Holden as the field of operation becomes significant if the public need were similar in the two towns.¹¹

The problem of choosing between the towns invites speculation. One possible explanation is that the Holden State Police post represented an "advance party" whose commitment to the field demanded support. The identification with the Holden State Police may have focused the perspectives of the Framingham State Police so that other places might not have loomed so large. This would be a direct reflection of organizational solidarity. When posed against impartial public responsibility, it might imply that those public needs which were consistent with organizational support were the most clearly "visible." This might further imply that the larger public interest does not

actually rank first in the police hierarchy of values and the priorities they assign various groups. This is sheer speculation at the moment, but it is consistent with the different attitude toward victims expressed by the Shrewsbury police chief and the Holden Civil Defense director.

In summary, Holden was a small town struggling without resources or adequate leadership in a situation beyond its capacity. A large professional police organization assumed responsibility in the field. Its authority derived from its leadership and was commonly acknowledged. The dominant agency respected the moral responsibility of local authorities, but did not allow this to prejudice its own independent exercise of authority and control over operations during the rescue period. Subsequently, during the emergency phase, it withdrew to a role which supported the authority of local officials and agencies.

The materials on Holden and Shrewsbury emphasize different parts of two systems in which leadership and authority coincided. In the next chapter, Worcester does not provide as close a glimpse of operations. But it offers a picture of strains arising from a discrepancy between de facto responsibility and leadership on one hand and formal authority on the other.

Social Services

When the tornado passed Holden people poured into the field and into the community center to help. Women, many of whom were accustomed to assist the local Red Cross on occasion, began to prepare for emergency feeding in the basement of the Baptist Church at the center. They evidently began to serve food about an hour and a half or two hours after the tornado and served some 2,000 meals daily for several days, mainly to volunteer workers. A mobile service was also organized to feed rescue workers in the field. In accordance with a pre-arranged Civil Defense plan, a local dairy delivered milk for infants to the center. Supplies and donations of various kinds began to stream in, clothing was processed and sorted for distribution, housing offers were compiled. Registration of victims and accounting for residents began almost at once.

But, just as in Shrewsbury, self-help and spontaneous mutual aid appeared immediately in the community. Victims were helped by relatives, friends, neighbors, and often total strangers. There was comparatively little dependence on public agencies for social services. This was attributed to many factors, from even a selfless concern for the needs of other fellow victims to a slow recovery from the traumatic impact of the tornado. For example, a supervisor of the clothing center in the Congregational Church at the town center observed:

The trouble is, the people who lost everything won't let you give them enough. They're thinking of the next fellow who will come along. But we're asking them to take enough to last the season.

The self-help pattern was most conspicuous in housing. The people who were left temporarily homeless managed to find emergency housing

for themselves. There were some 1,500 homeless persons on the first night, yet according to the Holden director of Civil Defense, public authorities had to find temporary housing for exactly five people. He reported:

We had offers of 200 spare rooms from Holden people for use of the stricken. But we had no takers. The homeless were practically all taken in by friends and relatives.

But the low reliance on public help applied less where children were concerned. Adults refused help for themselves, but came to ask for clothes and other necessities (viz., baby cribs) for their offspring.

The pattern of self-help among the victims may typify small towns. There may be considerable social cohesion so that people take care of one another during crisis periods. On this basis, greater use of public help might be expected in large urban centers. At the same time, it is important that the small town victims were mainly of middle and upper-middle class status. They may not only receive a great deal of support from friends and neighbors in the community, but they may also have an aversion to the acceptance of public help. Their class sentiments emphasize the worth of independence and self-reliance. They define their roles as patrons rather than as recipients of public help, disaster relief, or emergency welfare which they may regard as euphemisms for charity. Under the stress of crisis, they might well assert their values of independence and reject the unfamiliar position of relief client,¹² thereby reassuring themselves that they "may be down, but not out."¹³

Community Membership vs. Agency Affiliation as Bases of Mobilization. Public authorities had little experience with disaster. They did not expect the victims' low dependence on social services that actually developed, and they quickly went ahead to organize public help. In the mobilization of social services there was a spontaneous division of labor which cut across organizational lines and developed within a community framework. Many organizations were active, but functions were not allocated to agencies. No agency assumed comprehensive responsibility or authority for social services, none claimed them, and there was no formal designation of an official disaster relief organization. The services were simply performed within the framework of the community.

This pattern is expressed by the organization of functions. Registration of victims was handled at the Town Hall by the town clerk, other town employees, Red Cross members, Civil Defense people, volunteer workers, or whoever happened to take over the registration desk. All donations were funneled through the Town Hall where they were allocated to the appropriate relief service. Housing arrangements were handled at the Town Hall, mainly by the Civil Defense director. Feeding took place in the basement of the Baptist Church under the direction of a woman active in the Red Cross. One clothing center was set up in the Congregational Church under the pastor's direction and two days after the tornado a second clothing depot was organized at the nearby Episcopal mission. Consistent statements about the clothing

situation were made independently by the chairman of the Red Cross and by other people working at the center. Our data show that spontaneous observations about services almost invariably referred to needs and activities, but not to organizations.¹⁴ Similarly, the staff workers within any service were people with different organizational connections or simply unaffiliated volunteers.

Thus, while organizations did participate in the social service effort, this was informal. Organizational membership bore no relation to services performed, and the identity of agencies and the lines of separation between them were completely blurred. Functions were divided and services integrated within a framework of communal effort.

Within this informal organization, a leadership structure developed which was recognized and followed. The principal leaders tended to be people with higher positions in the Red Cross, Civil Defense, and the town government. Their decisions and directives soon took on the weight of authority. But their authority owed nothing to their specific organizational connections, nor was it informally conferred upon them. It resulted from the general acceptance of their competent leadership. None of these leaders advanced claims to exclusive or overall responsibility. There was evidence of neither rivalry nor competitive concern about prestige, power, or future political advantage. The general situation was free from contention or friction, and it developed informally without official intervention or directives.

This presents a sharp contrast to the formal system in Shrewsbury. Holden had an informal emergence of authority, an informally coordinated division of labor, and a mobilization of services which cut across organizations within the community; Shrewsbury had a formal allocation of authority, an uncoordinated duplication of services, and participation within the framework of separate organizations. Thus, in Holden, social services were communal; in Shrewsbury, they were related to organizations.

The two towns were essentially comparable in character, in the effects of the disaster, and in resulting social service needs. Hence, two basic problems emerge: (1) Under these similar conditions, what produced the different patterns of participation and authority? (2) What effect did these different systems have on operational effectiveness? We have no definitive data on the first question, but two factors may have relevance: ecological and demographic.

Ecology and Symbolic Sentiments. Firey has analyzed the role of sentiments in urban land use and how these sentiments endow certain features of a town with symbolic importance for members of a community (Firey, April, 1945: 140-148). In times of crisis, it is likely that the symbolic features become especially prominent and furnish orientation to community members. Thus, people can be attracted by them and channelize their responses and action toward them (much as a fugitive criminal may seek out the sanctuary of a church). This need not be a fully rational decision; in a situation which demands action, the symbol may locate an appropriate arena of action and thereby structure the channels of behavior.

Some process of this kind seemed to occur in Holden, but not in Shrewsbury. We have previously indicated that Holden had a town center with strong symbolic value while Shrewsbury's town center was simply an administrative locale. In Holden, strong sentiments which were attached to the institutional setting gave it the significance of a community center somewhat reminiscent of the local church which integrated villages in medieval Europe. Shrewsbury had no equivalent site which carried the same weight of sentiment and which was suitable for operational purposes. This was illustrated by the establishment of disaster relief headquarters in the school a mile away from the town center. Consequently, in Holden, there was a spontaneous convergence of activity upon the community center, while in Shrewsbury, activity was dispersed to many little sub-centers of separate organizations.

Generally, physical settings set the conditions of behavior, but seldom determine action and choices directly. These determinates lie elsewhere, in the meanings which the settings acquire (as in the symbolic sentiments in our problem). Our data, however, are not complete. It is not clear, for example, whether Holden people expressed a great deal of apparent community solidarity because there were no other outlets for action than the consolidated center; or whether Shrewsbury people were equally united, but had no adequate physical center to serve as a rallying point. A discriminating test, if it were possible, would be to reverse situations and people, to observe the Holden people under Shrewsbury conditions and vice versa. Future research might further clarify the relations between ecology and participation patterns by examining the apparent reference groups (community or organization) in towns with and without symbolic community centers.¹⁵ The definite impression from our data is that there were genuine differences in the patterns of identification with the community. Certainly the physical facilities in the two towns were conducive to different responses.

Demographic Composition and Social Participation. The second factor in the participation patterns is that they were not connected with demographic differences. They cannot be accounted for by different compositions of the towns. Holden and Shrewsbury could scarcely resemble each other more closely in demographic profile. The net picture from census data is that of two small towns, similar in size and rate of recent growth, age and sex composition, ethnic composition, housing, affluence and general class structure, and apparently similar in the general style of life which they sustain.

But, significantly, regardless of how much the towns resemble one another in these respects, other possible differences in social integration and cohesion may account for the different responses to the emergency. Presumably, similar class patterns and community structure will not necessarily produce common attitudes toward the community or the organization of community life. And the character of a community which can be inferred from demographic profiles will not be predictive of the community's response to crisis.

Authority Patterns and Operational Effectiveness. The second basic question about the participation patterns is how the different authority systems affected operational effectiveness.

Where membership in organizations is coupled with strong community bonds, organizational affiliation can be submerged in the communal response, with little concern about formal jurisdiction or authority. But where allegiance to formal organizations is strong and identification with the community is weaker, then the solidarity of agencies may force authority problems to be sharpened and formalized. In the first case, the community takes precedence, and in the second case, the organization.

The consequences might differ with severity and type of emergency, but they vary mainly by conditions of leadership. Where disaster needs do not clearly "select" appropriate leadership groups (viz., injuries require doctors), then the formal organizations provide a nucleus for the crystallization of leadership and authority. In the absence of other active structures, the loyalty to organizations can be functional. If competent community leaders or formal authorities are available, however, primary loyalties to organizations may prove disruptive.

The success of an informal communal response depends upon highly competent leadership to improvise and integrate an operating structure. Otherwise, with inept leadership, two situations may arise. A highly structured, centralized authority system may be established which may prove inflexible and/or the communal response may lead to non-coordination, diffusion of energies, duplication of some functions and neglect of others, conflicting directives and ineffective operation, or even to competing authority groups.

Both Holden and Shrewsbury enjoyed competent leadership in social services. Although this was exercised informally in one town and formally in the other, communally in one and organizationally in the other, their systems were comparably effective in the provision of services. There was common agreement on the structure of both authority systems. Holden's flexibility was not maintained at the expense of clarity or effectiveness nor Shrewsbury's formal structure at the expense of flexibility or effectiveness.

Thus, in summary, agreement on the norms of organization may be more significant than their substance or the form of their expression. The recognition and acknowledgement of competent leadership was more determinate of effective operations than the particular framework of authority--whether official or informal, whether centered on agencies or on the community.

FOOTNOTES:

1. For example, Civil Defense had provided itself with highly detailed maps of the town which showed each building. It made previous arrangements with a local dairy to have milk delivered in case of emergency and this began almost immediately in connection with social services. Further, Civil Defense had previously classified a large portion of the townspeople by blood type. When the tornado passed, this list

was sent to the hospital in order to facilitate transfusions and the location of donors of scarce blood types. This information apparently proved valuable. These details illustrate that Civil Defense plans, though limited in scope, were of a practical order.

2. Half of the 200 people treated the first night were hospitalized, 40 with major injuries. Some of these were later transferred to other hospitals. Holden Hospital still had 23 of the casualties one day after the tornado, and 19 two days after. But on tornado night, Holden did not have enough doctors and nurses for at least four hours. In the other communities studied, hospitals had an adequate number of volunteer medical people on duty in a fraction of this time.

3. The state Civil Defense also relayed this information downward to the regional headquarters so that they too would have some idea of the field situation. This reversed the normal direction of communications in which information presumably was to flow upward from an emergency area through the regional level to state headquarters.

4. This is in sharp contrast to the attitude of the state police toward the C.A.P. in Flint.

5. The state police did transfer some patients from Holden Hospital during the first night, but this was apparently for specialized medical services which Holden could not provide.

6. The search for this child became particularly symbolic for the community and was handled by Civil Defense.

7. In Worcester, for example, the first comprehensive, though not complete, account of residents was not available for five days.

8. The Holden post of the state police was somewhat marginal and might, in some sense, be termed quasi-local. Although the men were part of a state agency, the community was part of their work setting and their informal work associations included many local people. Consequently, their formal and informal ties embraced two axes, one to the town and the other to the organization. Significantly, however, these dual involvements created absolutely no cross-pressures, role conflicts or strained allegiances when the tornado broke. Their primary identification with the state police was clear. The Holden men showed greater spontaneous awareness of and orientation to the town than the outside state police did. Consequently, they assumed the principal liaison functions. But there was no question that they operated within the framework of the state police rather than the town organization.

9. On the applied side, the use of pseudo-martial law may contain serious hazards for officials because it confuses formal and informal relations in the public mind and within the authority system. While informally shifting the public locus of authority from themselves to the police, officials confer power. But they do not actually divest themselves of responsibility for actions of the police groups. This leaves the officials in an exposed position. In Shrewsbury,

the public officials did not long endorse or associate themselves with the police chief's stringent pass system. They submitted to the public pressures to ease controls faster than he had planned. They publicly retained the power to intervene in the situation when it became clear to everybody after the first night that there was no martial law. But if a pseudo-martial law is invoked after the rescue stage, the apparent relinquishment of their power places public officials in an awkward position. If, as in Shrewsbury, they should not support actions taken by police groups and if they should wish to rescind them, the informal power position in the authority structure may be so ambiguous that their legal control may have little effective force. That is, authority may not be translated into power. The public announcement of martial law implicitly promises to maximize control over the disaster situation. At the same time, officials may lose their control over the authority organization. Members of the community may be led to expect the effects of the emergency to be eased. Yet officials' actual control of events may be handicapped at a time when their potential ability to control is increasing. In other words, a fake martial law may prevent or delay the "natural" resumption of effective civil control after the rescue stage.

10. The volume principle is an implicit commitment to effectiveness rather than efficiency in the use of resources. Efficiency demands optimum economy in the allocation of resources; effectiveness refers to maximum need reduction regardless of cost factors. Clearly, there is no 1:1 relationship between them. Wave supply is inefficient, but it means that needs in the field are seldom left unsatisfied. It may be inefficient to saturate an area with twice as many doctors as are necessary, but this insures that casualties are treated at the maximum possible rate. Thus, inefficient supply is almost an inevitable concomitant of maximum effectiveness in meeting emergency needs.

11. Future research might examine the conditions under which some areas are ignored in favor of others. A similar decision was consciously made, sub-rosa, in Worcester. In Flint, some areas were overlooked because of leadership failure in making early surveys of affected areas, but this neglect was not a definite choice.

12. Clearly, the possible stigma felt from the forced acceptance of the client role might account for part of the resentment which victims commonly direct against the Red Cross. Client hostility is apparently an endemic Red Cross problem. For example, in the wake of a tornado earlier that year, investigators report:

During this emergency, criticism of the Red Cross became so wide-spread and intense that Red Cross officials themselves became concerned.... Rumors about Red Cross were rife and extravagant, however. The agency was charged, among other things, with selling sandwiches at the canteens, requiring repayment for assistance given, and 'putting up a Red Cross flag and getting some pictures before doing anything else.' (Killian and Mer, 1953, p. 13).

13. This may open the possibility that if victims could be persuaded to take an active part in the administration of social services, the possible stigma of being patronized might be replaced by a context of self-help. They might be more receptive to assistance on this basis.
14. This does not include long-range rehabilitation programs of the Red Cross or the town which were bound up with these corporate units. These programs conformed to official provisions about emergency rehabilitation laid down by the national Red Cross or various State and Federal statutes.
15. Clearly, of course, community solidarity and symbolic centers may be interdependent and this factor would have to be taken into account in any research design.

Chapter V

WORCESTER

Worcester is located about 50 miles west of Boston in central Massachusetts. At the time of the tornado, it was a city of some 200,000 people. As an older urban center, its population was fairly stable in numbers and movement, having varied by less than 10,000 persons in the preceding 25 years.

Worcester's economy had an industrial base. In 1950, one half of the labor force in the metropolitan area consisted of industrial workers. Its total economy was considerably diversified. The principal products were wire and steel goods, but there was also considerable heavy manufacturing (machinery and equipment, Pullman cars, etc.) and a variety of light industry (leather goods, shoes, textiles, clothing, ceramics, abrasives, etc.). Worcester's industry was spread among well over 1,000 plants, but their gross product had less value than that of the 100 companies in Flint. Where one-sixth (17%) of Flint's labor force was non-manual, one-third of Worcester's was similarly employed. This emphasizes Worcester's greater importance as an administrative and commercial center. Although the city was located in a rather worn out economic region which attracted comparatively little investment capital, it was subject to less drastic extremes of prosperity and depression than Flint.

Worcester's ecology was more sharply drawn than that of any of the other cities in this study, and greater contrasts appeared among its neighborhoods. There were poorer and wealthier residential sections and more shading in between. The town had smoothed over some of the rough early edges and developed a more variegated metropolitan flavor. Worcester had a handful of small colleges, one excellent museum among several in town, parks and play space, both a morning and an evening newspaper, and some of the sophisticated bustle of urban middle age (as well as its fatigue and deterioration). The facilities and amenities of Worcester could clearly accommodate a greater range of tastes and life styles than those of Flint.

The political structures of Worcester and Flint also differed. Flint had two massive power groups--big business and big labor--which underlay and ultimately controlled the Flint administration. Because the balance of forces in Worcester was neither as definite nor as stable as in Flint, there was apparently more political in-fighting and maneuvering. Public officials seemed quite vigorous, alive, and efficient. An aggressive, respected mayor showed a marked sense of public responsibility and concern for the city's welfare. Other local officials were equally energetic; the city had availed itself of Federal and State funds for many municipal improvements. Among these were three public housing projects, the largest containing over 3,000 residents. All three of these projects were struck by the tornado.

Worcester had the normally well-staffed, well-equipped police and fire departments with independent, self-sufficient communications systems. The police department had almost 400 officers and men. There were half a dozen sizeable hospitals in town, an active Red Cross chapter, and a Civil Defense unit which enjoyed an excellent reputation.

After ravaging Holden, the tornado swept down on Worcester during the evening rush hour when the roads were clogged with homebound motorists. It bore through several outlying sections of the city, striking the three public housing projects and other residential neighborhoods. Some 70 residents were killed and almost 800 were injured, about half of them seriously enough to be hospitalized. About 2,500 dwelling units were affected; 250 of them were completely demolished and 1,200 sustained major damage. Perhaps 8,000-9,000 people were displaced from their homes, although some estimates ran as high as 12,000.¹ The value of the destruction exceeded \$30,000,000, over three times greater than that of any other town studied. This reflects two factors: (1) the stricken parts of Worcester had substantially higher housing density than the other three towns; and (2) there was significant non-residential damage to a factory, a college, and other public institutions which the other towns did not suffer.

Overall Field Authority

Worcester is of particular interest because of its Civil Defense agency and the problems which arose out of it. The city had the most active, well-developed Civil Defense organization of the four towns. It was relatively well financed, its program compared very favorably with national standards at that time for local groups, (Scott 1953: 375-385; Garrett, 71; Anderson 1969; Dynes and Quarentelli 1975), and it enjoyed a good reputation. Although it was still in the process of development, it was held up as a model for the organization of municipal Civil Defense groups. Thus, Worcester provides the only case in our data of a comparatively large, thriving Civil Defense agency with strong official support.

Although the mayor was the titular head of the agency, actual executive authority was in the hands of the full-time director, a police lieutenant on indefinite assignment from the police force.

According to the legal arrangements existing at the time of the tornado, Civil Defense was to be the overall municipal authority in the event of any civil emergency (aside from social services). The agency had the responsibility to direct and coordinate all operations, receive requests for help, mobilize and allocate resources to the field, and so on. In other words, Civil Defense would ostensibly perform the functions undertaken by police groups elsewhere. All municipal departments cooperated in this program and "voluntarily" subordinated themselves to Civil Defense leadership and authority. These provisions for emergency were formalized in an organizational chart with Civil Defense at the apex.

All public agencies were fully aware of these formal arrangements, but their voluntary submission to it was a legal fiction. The city government legally committed the municipal departments to the program and the latter had no option in the matter. Their real skepticism about the qualification of Civil Defense and their reluctant subordination to the agency became abundantly evident immediately after the tornado.

The regional and city Civil Defense shared an office in the Worcester Auditorium where each unit had one telephone. The regional organization had no resources of its own, but was responsible for linking the small towns in the district (like Holden and Shrewsbury) with the State Civil Defense at Framingham. On the basis of this liaison, the state headquarters was supposed to send help to the towns. Over a period of time, the distinction between the regional and city units became blurred by their close contact in the joint headquarters. This was reinforced during the disaster by the break in communications between the regional office and the stricken suburban towns. The regional representative helped the city group in dispatching volunteers to the field, and so on.

The advance planning of Civil Defense had reached a high point about one month before the tornado with a full-dress practice test in a simulated emergency. The entire staff was mobilized for this "dry run" and had an opportunity to rehearse emergency roles. As a preparation for disaster operations, the timing of the drill was excellent and the staff referred to it with pride. They credited it with a valuable clarification of procedures.

On the whole, however, they failed to appreciate how the rehearsal was and was not valuable. It was most effective for the mobilization of key officials and for emphasizing the primary responsibility of each division head within the organization (so that the communications officer set up a HAM radio network rather than organized transportation). But beyond this, the dry run and the formal emergency plans had dubious training value. Basically, they contributed nothing to the handling of mass participation. In the actual event, Civil Defense followed no plan, but simply sent all able-bodied volunteers and donations of equipment into the field with no knowledge of their effects or the needs of the situation.

The emergency was met strictly by mass assault and by whatever leadership the police could provide. During the rescue and emergency stages, Civil Defense was simply one of many participating agencies. It provided no overall leadership, direction, coordination or authority at any time as it was expected according to the organizational chart.

Furthermore, after the emergency was over, Civil Defense had only the vaguest knowledge of how the disaster had objectively been handled. Their leaders accounted for a "successful operation" by general references to "excellent cooperation" and "magnificent community spirit." Aside from anecdotes, they had no comprehensive picture of the field situation or how their activities were related to it. Other organizations, however, had similar problems of evaluation.

When the tornado passed, the hospitals and police learned of the disaster almost immediately. All available ambulances, which were controlled and dispatched by the police, were sent to the stricken areas. The entire police force was ordered into the field. The fire department sent several rescue teams on the first wave of equipment to go out. The rescue and evacuation became a continuous operation. The police and fire departments had been training auxiliaries for several years. Although they were officially called out immediately after the tornado, most of them reported for assignment without having heard of the mobilization, going either to police or fire headquarters, or directly to the field. The police auxiliaries quickly began to relieve the regular police of traffic problems and worked with little supervision, while the auxiliary firemen were active in rescue and fire fighting.

The immediate organization and supervision of field operations was spontaneously taken over by the police. On the basis of a brief, superficial survey in working their way into the stricken area, the Chief of Police and four of his deputies quickly split up the area into four zones. Each deputy took charge of one section while the chief moved about in the field, keeping in touch with the overall situation. Radio communication linked the four zones, the police chief and police headquarters in town.

In dividing the stricken area, the police intentionally assigned a "low priority" to one small section which was not as badly hit as the other four. One officer stated in the interview:

Confidentially, we just ignored the....area for a long time because they were not hit as bad and we had our hands full with the others.

This omission was not a formal decision so much as a tacit agreement, but a rational judgment nonetheless. This decision, based upon a field survey, however superficial, will become relevant when we consider Flint in the next chapter.

Aside from rescue work, the police immediately attacked congestion and circulation difficulties which were aggravated by the heavy evening rush-hour traffic. In the fringe areas, many people simply abandoned their cars on the roads when they went to help the injured. These cars and the usual disruption of a tornado were serious obstacles to the flow of ambulances, fire engines, and other vehicles, including those taking casualties to the hospitals.

Some 50 men from the Department of Public Works worked with the police, rapidly opening the main roads within half an hour after the tornado. Crews with power saws, bulldozers, and other equipment were assigned by radio to clearance jobs under the control of a central coordinator. This operation moved quickly and systematically.

While the traffic jams and blocked roads were being unsnarled, the police began to set up a perimeter of control points which reached into all the areas within half an hour after the tornado.²

As the worst of the congestion was eased, the regular police shifted the control of traffic and the roadblocks increasingly to the Auxiliary Police and turned to other disaster work. Before the night was well advanced, the roadblocks were also being manned by State Police, National Guardsmen, and some Civil Defense volunteers.

In the early rescue period, the field work proceeded mainly by mass assault. Most of the actual rescue and evacuation was carried out by private volunteers. The police were able to keep track of and give some loose supervision to parts of the operation. The work of independent agencies was largely uncoordinated, except for selected problems, such as the cooperation of the police and public works crews in the methodical clearance of blocked roads. It was easier to coordinate this organized aid, especially from the municipal departments, than the private volunteers because the former worked as cohesive teams. In general, the police loosely supervised these departments (especially fire, public works, and auxiliary police and firement). They were able to control the distribution of heavy equipment, such as cranes and bulldozers, fairly well in the rescue operation. Streets were rather systematically inspected to pinpoint spots where heavy equipment was needed, and it was assigned accordingly.

There was great concern over various safety hazards. Although almost a dozen structures burned, quick work by the fire department contained the fires and prevented them from spreading into areas that had no water pressure in the mains. Loudspeakers also warned people against smoking (there were open pools of gasoline) and about live wires (the power plant had actually cut off the main current).

Frequently, bottlenecks could not be broken without special equipment, such as winches, cranes, jacks, acetylene torches, power chain saws, electric generators, and floodlights. There was a premium on people who could operate this equipment or understood construction and demolition work. Many of these resources appeared as pure manna-from-heaven. Necessary equipment was sometimes even caught in the disaster area by the tornado. One news story, for example, reported the experience of two men:

Both are construction men, and were returning home...after a day's work. They were driving a trailer-truck on which rested a tractor.

"All of a sudden...I saw a chimney flop over.../and/ a rooftop sail by our truck..."

Both /men/ next unloaded their tractor, and started clearing /an/ avenue, once the storm's fury had swept over them.

"After that, /we/ stayed on /the/ avenue and started clearing the rubble with our bulldozer. We worked...for two and a half hours, opening the road so that the first doctors, nurses ambulances could get in...."

In a similar vein, a police sergeant reported that a power saw was necessary to remove a large uprooted tree which had blocked a road. He looked up and at that moment saw someone coming along the street with a power saw. Afterwards he observed:

I'll be damned if I know where all the /power/ chain saws came from. You never see them around here. About the only ones who have any use for them are farmers in the backwoods or someone like that, for clearing their land. But, hell, when we needed them they just seemed to sprout up all over the place like mushrooms. I don't know where they came from.

Some specialists, including doctors, came to the stricken zones in great numbers. Others were caught in the area by the tornado, among them the head of the Department of Public Works who mobilized quipment and work crews on the spot from his radio-equipped car.

Operating groups mobilized resources, partially by liaison in the field, but mainly by independent action. Needs were radioed to various headquarters. The separate agencies tried to locate the requirements through their customary suppliers and other sources. In general, specialized suppliers were tried first. For example, when the police needed 500 flashlights, they located the largest hardware wholesaler in Worcester and he opened his warehouse for the lights. Or when the police chief wanted police reinforcements, he arranged for them directly and had 20 cruisers brought in from another city and 50 more from a town in an adjoining state. Similarly, the fire chief supplemented his rescue equipment by direct request to an out-of-town fire chief.

In addition to the fire department rescue teams, two rescue trucks came from the State Civil Defense headquarters about an hour and a half after the tornado. Worcester's Civil Defense had rescue equipment stored in a warehouse, but there was no transportation for it and almost no personnel skilled in its use. Consequently, the city Civil Defense did not get a rescue team into the field until three hours after the tornado.

Less specialized equipment also tended to be secured directly and independently:

The Army, Navy and Air Force had all furnished supplies and equipment... Theoretically district Army Headquarters were charged with the responsibility of coordinating the assistance of the armed services, but most of the individual posts and bases had been furnishing direct assistance upon request from the communities....

One of the most confusing factors in the whole thing was the lack of centralization of federal

supply. Apparently everybody was calling whoever they felt like and asking for equipment.

Several aspects of the mobilization are noteworthy. (1) The supply process was not integrated or strategically handled, as, for example, in Holden. (2) Civil Defense was almost utterly ignored as a supply source. (3) Those giving and receiving aid frequently had the same occupation; police helped police, firemen approached fire departments, etc.

Some first aid stations were set up for victims in the field, but, on the whole, these were not organized during the first two and a half hours. By this time, most of the serious casualties had been evacuated, and the casualties still in the field were mainly minor. There was almost no screening of the injured before they reached the hospital. Doctors usually came to the field without adequate supplies and were handicapped unless they used the first aid equipment of the police cruisers or the rescue teams. There were some first aid stations which were improvised mainly for volunteer workers, one of them set up by the police. The National Guard ultimately provided two in the field for its own men and another in its Armory.

While the active direction of work and the coordination of activities were not great, a check was maintained on operations. No central field headquarters was established. But the movement of the police chief among the zones helped to keep the larger picture in some balance. In this sense, the field operation followed a pattern similar to that in Shrewsbury, although the degree of control was not as great. The original survey information was steadily augmented by loose liaison and the flow of operational communications. But ground-level activity tended to go on fairly independently rather than within an integrated system. Direction of work was most marked in loosening bottlenecks. These patterns were also noted by another researcher:

There was no centralized damage control point established in Worcester. Various services such as police, fire and National Guard units operated their own centralized control without too much relation to other services. This meant that these services were each taking independent action without coordination except on the spot /in the field/....

By and large the Police and Fire Departments carried the brunt of the disaster operations....Such planning /as/ was carried out was the Police Department's own emergency planning for normal emergency situations.

Operations were improvised according to knowledge of the field situation at any given time. The police took the most effective action in meeting field needs and in furnishing the limited amount

of strategic leadership which appeared. Positive direction in the rescue period was largely confined to critical, pin-pointed problems. While many trained specialists were in the field, most (but not all) of their work was uncoordinated. Rescue, evacuation, and other operations were mainly a mass assault on discrete problems.

Outside the field, there was even less coordination than within. Separate agencies operated independently and there was comparatively little communication between various headquarters in town.

Nevertheless, within about an hour and a half after the tornado, the congestion had been relieved on the roads in the fringe area and on the main streets leading to the hospitals. It was possible for traffic to flow without interruption at 50 miles an hour from the stricken zones through downtown Worcester to the more remote hospitals beyond. The bulk of the casualties, and almost all the seriously injured, were removed within two and a half hours. Apparently, the entire disaster area was evacuated and under guard in about five and a half hours.

Notably missing from the picture of overall leadership is the Civil Defense. There are few opportunities to assess the spontaneous work of this emergency organization. We can review its operations in the light of its leadership responsibility and its formal overall authority.

Civil Defense. Because the tornado struck after office hours, the local organization got off to a delayed start. The state police at Boston (sic) managed to phone one of the Worcester Civil Defense officers at his home and he hurried downtown to re-open the Auditorium headquarters about half an hour after the tornado. Other staff members heard that an emergency had arisen and also came in. They began to phone the rest of the staff. Within 15 minutes a nucleus of key division heads had arrived and started to phone their own staff members. On the whole, the headquarters was fairly quickly staffed with the top operating heads. The lower-echelon operating personnel were not as efficiently alerted and arrived along with the stream of private volunteers who began to come to the office.

The local director of Civil Defense had been driving home when the tornado caught him in a traffic jam on the fringe of the stricken areas. He saw some casualties and damage, a roof blown off a house, impassable roads and fire apparatus. He began to help some of the victims without realizing what had taken place. He learned about the tornado from a passing police cruiser which brought him back to Civil Defense headquarters. He arrived about an hour after the disaster and found the mobilization of staff people underway and volunteers starting to stream in. The director had only the most fragmentary impressions of the field situation from his limited exposure in one fringe area.

Civil Defense reported that it mobilized 1,500 trucks and other vehicles in three hours. How instrumental the agency actually was in the organization of this transportation, however, is unclear.

Numerous vehicles apparently appeared spontaneously or in response to general radio appeals. Because of their uncontrolled use, however, many of them aggravated congestion almost as much as they helped. One researcher reported:

However, there was no central dispatch point and most of these vehicles were merely told to report to the disaster area and make themselves useful in any way they could. This made for a great deal of traffic congestion and did not make for good coordination or /effective/ use of the vehicles available.

Civil Defense was represented in the field almost exclusively by untrained volunteers. They streamed into the Auditorium headquarters where the able-bodied were screened out and given Civil Defense armbands and sent into the field, but without direction or supervision. The director estimated that almost 2,000 volunteers participated in the disaster under Civil Defense auspices. Most of these were presumably sent out during the first three hours or so. Hundreds of others were steadily thanked and turned away, although many of them milled about in the Auditorium corridors on the chance that they might eventually be needed.

One exception to these untrained volunteers was the rescue team which reached the field about three hours after the tornado, or after almost all the major casualties had been removed. This team was a product of Civil Defense training, albeit the only one in existence. While the agency was committed to a wholesale training program, it was scarcely beyond the planning stage (whether from organizational factors or public apathy is unclear). According to one survey of local training programs:

The organization chart posted in the Civil Defense headquarters set up a training unit /for volunteers/. I was informed that this was a paper unit that had not really gotten started. Again the fire and police /departments/ were the only units that had organized professional training /for auxiliaries/. I was unable to find out how much first-aid training had been accomplished by the local Red Cross chapter, but there was no evidence of any organized first-aid units.

The police and fire auxiliaries worked in teams and relieved the professionals of considerable responsibility. Aside from the rescue team, Civil Defense had no trained groups in the field. Except for their armbands, Civil Defense volunteers were indistinguishable from any other private volunteers. Some National Guardsmen claimed that many Civil Defense workers used the armband to get into the stricken zones for sight-seeing purposes. If the militia were wrong about the volunteers' motives, their error may have sprung from an expectation that Civil Defense would send disciplined, skilled teams. Instead, the performance of all volunteers was similar and indicates that Civil Defense recruits were as unprofessional as private helpers.

Significantly, the mobilization and commitment of resources was going on almost completely in the dark. During the early rescue stage, Civil Defense had only the vaguest knowledge of the location and extent of the disaster. For several hours, it had little information about the field situation or the kind of help which was needed. Fragmentary reports began to filter into headquarters about one and a half to two hours after the tornado. These were mainly impressions about the field from occasional volunteers who returned to the office. During the period when most of the help was dispatched, Civil Defense operated almost completely without specific information.

There were two immediate causes of the agency's severe isolation from events: (1) Civil Defense had no direct communications with the field nor systematic contact with any other operating agency; (2) Civil Defense headquarters was serviced by only two telephones, and this created almost a complete communications impasse.⁴ The telephone bottleneck which began when the staff was mobilized in the first hour simply continued as a chronic obstacle. It was almost impossible to get a call through to the office.⁵ Other agencies which did have information on the field situation could not have reached Civil Defense on any stable basis even if they had wished. Information was coming out of the stricken zones, but practically none of it was getting back to Civil Defense. The consequences for an overall leadership working without information have been succinctly stated:

It is clear that a constant flow of information upward is the essential basis of the flow of command downward, and the effective command cannot be established...until adequate information as to (1) the damage and effects and (2) the Civil Defense resource situation is available. This emphasizes the importance of field agents for gathering information and of the communications system for transmitting it....

The result was that Civil Defense operated mainly by hearsay and inference to construct a tentative image of the disaster from scraps of information. It had no comprehensive view of the situation nor the factual basis for strategic decisions. Consequently, the assignment of individual volunteers or trucks became a series of disjointed tactical actions rather than part of a strategic operation. This is in sharp contrast to the supply system of the state police in Holden.

The telephone bottleneck at the Civil Defense office set critical limits on the volume of possible communications. This in itself might have sufficed to prevent the agency from providing significant leadership. But isolation from the field certainly removed it from a leadership position. The communications problem was only a symptom of the agency's inexperience and failure to furnish leadership. There are several clear indications of this.

1. Civil Defense took no action to strengthen its operating position. (a) Immediately after the tornado, the Telephone Company maintained a standby crew to make emergency installations for operating agencies. Although other organizations did have extra installations made immediately,⁶ Civil Defense did nothing to supplement its two telephones until the fourth and fifth days after the tornado (when its operations had virtually ceased). (b) Civil Defense did nothing to get survey information (or its equivalent). It neither had a survey team in the field, nor sought such information from other operating agencies.

2. Civil Defense did not fully appreciate the extent of its isolation and the inadequacy of its information. To the organization's officers, the vortex of disaster activity appeared to be located right in Civil Defense headquarters. The telephones were constantly in use, mobs of people flooded the small office, sirens were going by, the office was bursting with activity, there were incessant and conflicting demands on everybody's time. With so much going on, the hectic atmosphere was that of being in the very thick and center of things. Amid the profuse issuance of orders about an endless variety of small details, the feeling was quickly generated that the office was the very nerve center of the emergency. In this atmosphere, it was not appreciated that factual information about the field came only in intermittent trickles from various casual sources. There was no flow of information and none resulted from the organization's initiative. Civil Defense people were scarcely aware of their objective isolation in a remote office at the end of a tenuous telephone line.

3. Under the pressure to act, the lack of information was not felt as a handicap so long as there was an ability to take some action. Action was not blocked. Regardless of its immediate relevance for the field needs, something could be done. So long as there were channels for activity, there was no effort to get information. This has several implications. (a) Civil Defense had no fund of disaster experience which could stabilize its perspectives and act as a check on its working assumptions. (b) With its insulation from the field and with the pressure of would-be volunteers, Civil Defense responded to events in its own headquarters rather than to conditions in the field. In other words, there was a small mass assault on headquarters' problems rather than on field needs. In effect, the office became the real arena of Civil Defense operations. (c) Regardless of inexperience, information may be sought when positive action is blocked. For example, in the Civil Defense headquarters, a regional administrative assistant was responsible for helping the small towns in the area. He knew that a catastrophe had occurred, but he knew nothing of its effects, scope, or location except that it had hit Holden. He had no idea about the other towns in the region. He was helpless to act on this basis and accordingly he undertook a "survey" in order to define his operating problems. He tried to telephone the various outlying towns in order to determine the places which needed help. After failing to reach Shrewsbury, he extended his phone calls systematically to one town after the other. Whether or not he could establish telephone contact became

his criterion of emergency. No town that he could reach by phone had been hit by the disaster. But when the telephone lines were dead and he could make no contact, he regarded the town as a disaster area. In this way, in about half an hour he managed to build up a reasonably accurate picture of the tornado's course and a list of the stricken towns. On this basis, he directed Civil Defense directors in those towns which had not been hit to send help into those which he had defined as stricken. Of course, such a telephone "survey" was simpler than a ground survey in Worcester. But because his possible courses of action were virtually nil, his basic orientation was at least to get information. The city Civil Defense, however, could act despite its lack of information. Ironically, the local organization might have become more effective if it had had less chance to act indiscriminately and were obliged to inform itself of the objective situation.

4. The internal operations of Civil Defense were neither integrated nor marked by clear policies and procedures. The accounts of the director and those of other staff members contained little evidence of coordinated operations. Civil Defense supervisors tended to act independently, while coordination, communication, direction, division of responsibility, and handling of resources were largely improvised in haphazard fashion. The operations of the various divisions were not related to one another. Nor was coordination assumed by any higher Civil Defense echelon. One outside observer specifically noted:

Although the State Civil Defense Director moved into town, there was no evidence that he was actually assuming responsibility for the coordination of services.

Policies were not clearly formulated or commonly understood. Contradictory procedures led to inconsistencies and confusion. For example, the regional administrative assistant authorized police reinforcements to be brought in from another state. This authorization was countermanded by the State Civil Defense director. He was willing to bring in equipment from out of state, but not personnel.⁷ While he insisted that this was a fundamental policy, the regional executive had been unaware of it. Such procedural confusions were not uncommon. The evidence fails to show any significant internal integration of the organization.

5. Civil Defense overestimated its own role in the disaster. Its images were focused on activities in headquarters rather than the field so that it did not assess its role properly. Its perspectives had some objective supports, but took little account of the large disaster picture. So Civil Defense became the innocent victim of the "part-for-the-whole" fallacy; it saw its role as much larger than was actually the case.

In these respects, Civil Defense contrasted with the police who took over the actual leadership responsibilities. Civil Defense was simply one of many independent participating agencies. It did not coordinate any operations or provide any overall leadership. Its authority was purely formal.

Against this perspective, how did other operating agencies regard Civil Defense? Did they look to it for leadership and invest its decisions with the same authority as those of the police?

Civil Defense enjoyed little prestige among other organizations. It was not viewed as a leadership or authority group. This reflected the agency's inexperience, lack of achievement, delayed mobilization, untrained personnel, and the absence of its leadership from the field.

In the matter of resources and supply, other agencies generally ignored and by-passed Civil Defense and recruited what was necessary elsewhere. Certain types of "housekeeping" or service functions were literally dumped into the organization's lap. For example, no field agency made any serious attempt to feed disaster workers. They simply informed Red Cross or Civil Defense that food was needed and expected them to arrange feeding. This expectation of service but not operating functions was reported by members of both Civil Defense and other agencies. It is one of the few points upon which almost all informants agreed. Thus, the professional organizations viewed Civil Defense essentially in the same category as the Red Cross, i.e., as a "service" rather than an "operating" or leadership group.

Because professional agencies regarded Civil Defense as an amateur group, they treated it accordingly. Most of them simply ignored the organization. But the police who had assumed the actual field leadership had much stronger views. To them, Civil Defense was incapable of meeting its formal leadership obligations.

Strains from Leadership-Authority Discrepancies

The discrepancy in the structure of formal and actual responsibility and authority contained deep strains for the police. But these were eventually relieved during the rescue stage, and consequently they probably did not seriously inhibit field operations in Worcester. We have earlier noted that authority conflicts can drastically restrict operations even during the critical rescue period. If the basis of strains in Worcester had not been resolved, or if Civil Defense had insisted on its authority in the field, operations certainly might have suffered. Therefore, we will now analyze some concomitants of the strains to clarify how they might discourage formally unauthorized professional groups from assuming overall leadership.

1. Official emergency organization may become over-elaborate and inflexible even though disasters are not effectively met by bureaucratic rigidity.⁸ This may spring from a concern with rational efficiency, or from a desire for power, prestige, or an easy life which a secure organizational niche affords. Such elaboration, regardless of its roots, may involve a cumbersome and unwieldy chain of command above the field level. One informant described the pyramid of formal authority which the Worcester Civil Defense bestrode:

Civil Defense is working in a big overall chain of command. There are lots of levels above the operating level. First, there's the state level, and below them the city and region. That means /the regional assistant/ and /the mayor/. Under him, at the next level, comes /the city Civil Defense director/. Then he's got his special staff and his general staff--all the /operating/ departments, police, fire and so on. Then you finally get down to the ground. Now, when you got to decide about doing something out there, you can't start going through all the levels in a chain of command like this to get Civil Defense's O.K.

But even improvised systems can also become elaborate. A pure case occurred in the Netherlands flood of 1953. As the flood waters rose, American units were called in to assist the Dutch.

Once General Eddy was established as Commander in Chief of this operation, he proceeded to set up administrative headquarters at The Hague consisting of top echelon officers of Army, Air Force and Navy, with Dutch liaison officers and liaison with the Military Allied Assistance Group in The Hague.... The next organizational step was a field headquarters at Breda, Holland, closer to the flood area.... Soon the headquarters at Breda also proved to be too distant from the scene of the disaster. Forward units were established at Woensdrecht for helicopters. Other units chose their field operations on the basis of need.... There was an extremely large and unwieldy organization for a small military operation. The extremely high level of command at The Hague which may well have been necessary because of international complications was very unrealistic and very far distant in terms of the disaster needs. It appeared to provide a set of channels that was quite unnecessary and extremely time-consuming, where time was of the essence.

While such a many-echeloned formal organization may have been a precaution against international complications, the bureaucratic approach to a fluid situation proved inflexible.

Inexperienced organizations which are engaged in emergency planning rather than routine operations may be the most prone to such bureaucratic elaboration. Their responsibility covers unknown ranges of possible problems. They have no check on the rationality of their working assumptions and procedures such as routine, workaday operations might provide. Thus, one informant claimed that in Civil Defense:

They sit around on their fannies looking at fancy organizational charts on the wall like little Napoleons. But they don't know anything about emergencies. It's all on paper.

When the bureaucratization of authority leads to inflexibility, effective leadership cannot be provided. This becomes a source of strain for both the formal and potential leaders and those to be led.

2. The field situation demands speedy, direct action regardless of niceties of formal organization. Flexibility and initiative may almost be assumed as major values in disaster. Unexpected operating needs create pressures which official organizational provisions do not take into account. Consequently, formal procedures are undermined and tend to be waived in favor of direct action and improvisation. In other words, when organization is inefficient, procedural norms give way to substantive pressures. This was the case in the Netherlands flood:

Although the organization was extremely top heavy, with tremendous delays between communication and action, in practice, field units often ignored these channels and acted without reference to them, since it was the only way they could get their job done....

The result of placing the command at too high an echelon in relation to the mission was that the frustration of following channels led to the ignoring or evasion of formal channels and the setting up of a great number of informal channels. The proliferation of such channels leads to a breakdown in the established set-up.

Thus, when the formal structure is rigid, operational pressures in the field lead personnel to by-pass the chain of command.

Up to some optimal point, this increases flexibility (even of effective leadership systems) without necessarily compromising coordination. But beyond this point, further independent operation does complicate the problem of integration. The analytic and operational problem is to locate the point of diminishing returns where continued by-passing reduces effectiveness.

While by-passing is rationalized on the grounds of compelling necessity, participants are quite aware of what they are doing. As one policeman hotly exclaimed:

People were lying around out there dying. What are they supposed to do, lie around and die waiting for Civil Defense to come around and pull a house off his back? What are we supposed to do, stand around waiting for him to die until Civil Defense gives us an order?

Thus, although the actor justifies direct action, he is aware of ignoring the official emergency system. Insofar as Worcester Civil Defense had no leaders in the field, it was easy to ignore the organization during rescue operations. But this decision between conflicting values causes strain. We will presently observe which values become determinate when operations suffer.

3. Professionals view non-professional agencies as inadequate and regard their leadership with indifference or contempt. Professionals (especially police) insist that big emergencies demand skills which amateurs simply do not have. The pressures on the police to provide independent leadership were intensified by their repudiation of Civil Defense as incompetent amateurs. The disparagement of inexperienced, non-professional organizations may play on several themes:

a. The professional-amateur distinction openly challenges the adequacy of the amateur group:

A disaster like this is really a police job, it's a police operation. But in an emergency, the police are subordinate to Civil Defense according to State Law.... This just ties the hands of the police department. But what the hell do guys over in Civil Defense know about something like this? Nothin'. Why, hell, it took them three hours to get themselves untangled and get one single rescue team out there. Big deal! Can you depend on people like that? They got nice guys over there--personally nice I mean--and a couple of them are capable. But they don't really know anything about handling emergencies--any kind. And they have no real organization. You just can't expect them to know what to do when something like this happens. Sure, they can help just like anyone else. But they can't run a show like this.

b. The assumed incompetence is attributed not only to inexperience, but to patronage and sinecures:

Civil Defense is just tied up with lots of red tape. It has no flexibility, just no flexibility for emergencies at all. For one thing, there are too many guys in Civil Defense taking bows. Some of them have nice cushy jobs. A lot of them are just plain political appointments.

c. Some criticism may be leveled at relatively minor weaknesses which are not serious operating obstacles:

On top of all this, they don't even know how much money they got to spend and what they can spend it on. You can't worry about ordering something in a disaster, whether its gonna have to be paid for or not or who is gonna pay the bill. You know about it, but you don't worry about it then. Civil Defense doesn't know for two weeks if it can authorize something.

This kind of criticism was merely a fillip of a general disparagement. The authorization of expenditures was never a genuine concern or a deterrent to action anywhere during the rescue period. Municipal and state executives took over financial problems.⁹

These materials indicate that Civil Defense was a highly charged symbol which the police disparaged. While its formal authority was acknowledged, Civil Defense leadership was not respected. This simply added to the strains in the field. During a critical part of the rescue period, authority and leadership rested in different hands. The people making the decisions did not have the authority, and the people with the authority did not make the decisions.

The authority-leadership discrepancy raises several questions. If there is a serious emergency, why should such a discrepancy even generate strains at all? Who feels the strains most? When may the strains inhibit the exercise of overall leadership (and presumably reduce operating effectiveness)? What interests or values does such inhibition safeguard? We will consider these questions in the next few pages.

Disaster participants generally agree that everybody should "rise to the occasion." This means initiative ("We had a job to do and we did it."); decisive action ("This thing sure separated the men from the boys."); and flexibility ("What are we supposed to do, stand around waiting for him to die until Civil Defense gives us an order?").

When the legitimate authorities do not provide genuine leadership, they implicitly do not "rise to the occasion." Basically, some strains arise from the sheer fact that disaster problems will not be solved if everybody assumes that formal role expectations are being met. For, with leadership failure, these common expectations become disrupted and confused. The "appropriate" degree of independent initiative is then shrouded in a twilight zone of obscurity. The proper kind of specific action becomes ambiguous. It is unclear whether the leadership failure is complete or partial, whether some responsibilities are still being discharged, which of the others have been taken over by someone else, and which are untended. Thus, when formally planned leadership fails, there are strains because common expectations break down.

When legitimate authority fails, a second source of strain may arise from competition to fill the leadership gap. A clear instance appears in the Netherlands flood. When the dikes broke, many different authorities converged on the disaster zones:

There was almost universal agreement among our respondents that the Dutch scene was a chaotic one administratively speaking. No one appeared to be in charge. In one province...representatives from sixteen governmental agencies moved into the province as a kind of secondary invasion, each one attempting to carry out his responsibility as he saw it. There was some evidence to indicate that each group felt its responsibility was the greatest, and that it should be in charge of the total effort....

In the case of the flood, the victim knew of the disaster before anyone else did. All underground cables were eliminated, hence the victim could not even make known his plight to the potential rescuer.... In Holland there was no telephone equipment in operation during the rescue phase.... Mr. Kunst, one of our respondents, a ham operator and owner of a radio store, was the first person to receive a message from the beleaguered city of Zierkzee. He...was attempting to put a portable radio transmitter into operation while representatives of three different government agencies were also in the room arguing where it would be sent when it was fixed.... The argument, however, continued and must be considered the kind of conflict which occurs when there is no one in charge.

Even without competition, improvisation by new top leadership may reflect on the adequacy of official leaders and openly call into question the legitimacy of their authority. In Worcester, this factor crystallized around the professional-amateur distinction. The police felt that authority should be determined by professional competence, and that the leadership failure of Civil Defense forfeited the basis of its claim to authority.

The challenge to legitimacy may spread diffuse strains throughout the system, but these are not equally distributed. They are notably concentrated among the rival organizations and are more intense in the upper-echelon staffs than the lower positions. Where ground-level people are geared to immediate operating needs, those in higher positions normally deal with the more comprehensive problems of organization, including strategy, coordination and policy. They are sensitized to these problems. Furthermore, they are involved in the formal system, they are aware of its structure and policies, and they are presumably committed to it. Consequently, they are expected to conform to it. When they ignore or violate its provisions (or allow their subordinates to do so), this must be regarded as a knowledgeable decision. This fosters the appearance of competition in a situation in which cooperation is presumably demanded.

The legitimate authorities may regard such a bid for independent leadership not only as purposive, but perhaps even as an intended violation of their prerogatives, especially if they deny their own default in leadership. If there are latent antagonisms or rivalries between the groups, the improvised leadership, though defended on the ground of operating effectiveness, may be felt as malicious intervention or an open attack.

These strains, then, may have volatile effects on the relations of the groups. Delicate problems are openly raised in a most indelicate way. The status, the reputation, and perhaps even the career prospects of some participants may be at stake. This is among the greatest sources of anxiety, strain, defensiveness, and hostility which disaster may release in the emergency authority system.

In Worcester, the interviews indicated that there was a tremendous concern with this problem. Civil Defense respondents seemed to divert the interviews from questions of agency performance to other matters while the police were specifically preoccupied with performance. The police focused attention on relations among operating agencies and community leaders; Civil Defense respondents talked instead about mass participation. The police dealt specifically with themes of agency competence and the leadership-authority discrepancy; Civil Defense people emphasized general themes about community solidarity, successful teamwork, community spirit. The police asserted that basic issues and tensions existed; Civil Defense reported cooperation and harmony. The police seldom ever mentioned rewards or recognition for performance; Civil Defense people, pointing out their "service" orientation, denied a concern for credit or prestige, but raised the question of rewards repeatedly. Possibly the most significant value for the police--the constraint which the formal system placed on their customary freedom from direction--was never mentioned by non-police informants.

If the formal authorities should fail in their responsibilities, there is no assurance that they would waive their prerogatives so as to encourage the filling of the leadership gap. If they did not, this would probably inhibit new leadership and limit operational effectiveness. This inhibition might appear under several conditions. It would be most likely to develop in "moderate" rather than severe disasters. The emergency needs themselves might not be as serious and extensive as in major catastrophes, and might not have the same strident urgency. On balance, the strains from impugning the competence and challenging the legitimacy of formal authorities might well override the pressure to accept overall responsibility. The severity of the emergency is not compelling enough to arrogate overall leadership. In the words of one informant:

It is a tricky problem. Partly it depends on what constitutes an "emergency" and when is there a "disaster." You have to be careful because it depends partly on legal definitions which are decided after the fact. And it is important because of these legal aspects. For example, let's say something happens--like the tornado here. A policeman has to make decisions. Let's say he has to break into this house to get these people out. This looks like plain disaster rescue work. But supposing it isn't an obvious, clear-cut disaster to everybody. If no state of emergency was declared, it might turn out there there was no official emergency. And he had no warrant to go into that house. So afterwards, his rescue work in what turned out not to be an official disaster may no longer be regarded as a rescue work. It can turn out to be breaking and entering--or even vandalism if he happened to pull some things out of a burning house. Now this may be an extreme case which is improbable, but these things sometimes have strange legal quirks which are not settled at the time of the emergency.

The jurisdiction and prerogatives of legitimate authority are normally set by institutional procedures. They are not the fruits of unregulated

competition, nor subject to arrogation or casual adoption. Authorities claim their prerogatives and do not commonly brook an infringement of these rights calmly.

But second, if new leadership is inhibited, then effective disaster operations are implicitly subordinated to the future harmony of rival groups. The alteration of formal roles raises the risk of humiliating appraisals of formal authorities. The failure might be grave enough to provoke a political fight for the realignment of power and authority. Large stakes may be won and lost. The very issue of competence threatens the stability of future role relations and raises problems that rivals must accommodate as they continue to "live together" in the municipal family. Therefore, when leadership is inhibited, this avoids unpleasant future consequences and safeguards future relations. Tension may subside if the default in leadership is tacitly denied or ignored.

In Worcester, the police did not force the issue into the political arena, nor did they inhibit their overall leadership during the rescue stage. In by-passing Civil Defense, they may have flung down the gauntlet as a challenge for that agency to pick up. Civil Defense, however, did not respond to the challenge, assuming that was the intention of the police.

Thus, if there are latent cleavages or power struggles in the authority structure, the decision to fill the leadership gap may precipitate them and make them manifest. The impetus of their eruption may cause a greater deviation from the formal emergency system than is strictly necessary for operations (viz., the police completely wrote off Civil Defense as a possible source of any help). The immediate results may appear to undermine the formal system. The rival groups, however, seem even more aware of the possible future consequences. The long-run effects of such conflict may be minimal or may revise the formal system, but not necessarily to everybody's satisfaction.

Many deviations from the formal system (whether pre-planned or improvised) are often attributed to ambiguities, confusion, "private definitions" -- factors arising from communications failures that can presumably be corrected.¹⁰ Sheer communications will not invariably promote the integration of operations. Communications may help to clarify ambiguous situations in which actors have conflicting facts and perspectives, but share common values and have no conflicting interests at stake. However, communications may not alter a situation in which there are common perceptions, but conflicting interests and values about basic issues. Such situations can only be handled through the normal modes of conflict resolution -- one of which is avoidance. This is precisely how the relations between the Worcester police and Civil Defense were accommodated during the rescue period. While the telephone bottleneck fostered this adjustment, the basic failure to communicate was prompted by avoidance. This afforded a means of handling tensions, but did not resolve them because it did not affect their causes.

We can summarize the discussion to this point.

The conflicting pressures of disaster needs and a formal authority system stimulate flexible, independent operation. This was intensified in Worcester by the presence of professional and amateur groups within the leadership sphere. There was a purposive departure from the provisions of the formal authority system. A strained, tension-ridden situation developed from the discrepancy between leadership and authority. The leaders of organizations were sensitive to the deeper implications of this discrepancy. Because of the binding legal basis of official authority, there was no prospect of a satisfactory resolution of the discrepancy. There was a reluctance to force into the open humiliating power conflicts which held little hope of a tension-free modus vivendi in the future. In the effort to fill the leadership gap, the strains were handled by strict avoidance between the parties. This did not relieve the strains, but did allow operations to go forward. The official authorities denied that tension existed and rationalized the avoidance on the grounds of technical communications difficulties; the de facto leaders acknowledged both the avoidance and the strain. Civil Defense was a highly-charged negative reference group for the police.

* * * * *

Informal Legitimation. The relationship between the police and Civil Defense was informally resolved by a superior authority figure -- the mayor of Worcester. He was the legal head of Civil Defense, just as the President is Commander-in-Chief of the armed forces. He entered the field some four hours or so after the tornado and worked in the stricken zones with the police chief. Although much of the rescue work was already accomplished, his participation in the field informally legitimized the police leadership. For as nominal head of Civil Defense, his presence meant that the police chief's independent operation no longer formally by-passed the Civil Defense organization. The mayor's authority sanctioned and legitimized the chief's decisions and action. If any question should arise, there was no need to take the agency headquarters and executive officials into account. The mayor's presence also relieved the Civil Defense organization of any responsibility for action taken in the field. It incidentally enabled the police to issue some directives to Civil Defense headquarters, as in the feeding of field workers. Thus, in effect, the police were interposed between the Civil Defense chief and that agency rather than being subordinate to the organization. As in Holden, the mayor's support tacitly endorsed the authority of the police (and this was formalized in a minor, but symbolic decision on passes several days later). This helped to clarify the position of the police and eased the strains which had existed before the mayor arrived in the field.

The mayor's support also enabled the police chief to implement his decisions freely. As a gesture of obeisance to the formal system, police headquarters had made perfunctory attempts to give Civil Defense occasional reports on the rescue operation (although their calls were seldom completed). Once the mayor was in the field, the police gave up even this activity and made almost no further attempt at contact. Thus, the severely limited communications between the groups were even more reduced. If anything, this aggravated the isolation of Civil Defense headquarters and almost completely cut the agency off from strategic field information.¹¹

The mayor treated the police as the foremost operating leaders. His sanction gave them autonomy and shifted the effective locus of authority. His own contacts also shifted from the Civil Defense organization to the police, thereby reducing the interaction between the two top Civil Defense officials (the mayor and the director). The responsibilities of Civil Defense declined steadily from the middle of the rescue period through the emergency stage. This shift in power was stable and considerably reduced the strain on the police because their dominant position was now sanctioned. Although the new relations were not formalized, they were accepted by public officials.

The mayor and the police chief had some differences over operating problems while in the field. According to all reports, their frictions seemed to be work-focused rather than personal. Both men had forceful character and they hammered out their differences on the spot. Some of them were resolved by the weight of the mayor's power, and the police were not always happy about this. One policeman observed:

The mayor was the top man. He knew he was the top man and he acted like the top man. Now he is an intelligent guy. He has a teacher's background. But after all, what the hell does he know about this sort of thing and the best way to handle it?

Here the political official is depicted as intervening in a specialized situation which the police could handle better. And they chafed under this restriction on their autonomy.

Significantly, however, there was no conflict over authority prerogatives as such. The normal superior authority of the mayor was clearly recognized and, in the last analysis, it prevailed. When their judgments could not be reconciled, the police chief deferred to the mayor, and their normal hierarchical relations were retained.

Outside and Local Groups. Estimates of the number of outside groups which helped in Worcester varied, but there must have been about 75-100. These included private, municipal, state, federal, civilian, military, and out-of-state organizations.

With one exception, which will be considered presently, outsiders respected local authority. In the field, all groups deferred to the Worcester police. Outsiders were primarily oriented to their institutional counterparts in Worcester, initially reporting to them, working with them, and accepting their direction. Thus, fire agencies helped the Worcester fire department, police worked most closely with the police, medical people served the hospitals, etc. Others helped out where they were assigned. Thus, some worked later on the evaluation of damages for federal emergency aid applications or assisted the Public Works Department in cleanup, etc.

The largest outside organization in Worcester was the National Guard. Units from several communities were mainly on patrol and guard duty. Working directly under the police, the militia had little to do with other groups. The police found only one militia officer difficult to work with; they simply avoided him and dealt directly with the two

top officers. The Civil Defense director claimed that the militia came in specifically to assist his organization and completely subordinated itself to Civil Defense authority. But, according to officers of the National Guard, they had practically nothing to do with Civil Defense, even though they were billeted in the Worcester Auditorium where the Civil Defense office was located. No data from any other source support the Civil Defense director's contention.

Indeed, the National Guard figured in the only case in which local authority was apparently not respected by outsiders. This concerned passes to the stricken zones. Ultimately the confusion over passes in Worcester assumed the proportions of a classic comic-opera, but lacked the incisive resolution which is the comic-opera staple.

Passes to the stricken areas were originally issued independently by several agencies: Civil Defense, the police, the local housing authority, and the militia. After their experience with some Civil Defense volunteers on tornado night, the National Guard soon refused to honor other agencies' passes and recognized only their own. The research could not definitely establish why the militia repudiated others' passes. They apparently felt that sight-seers and other unauthorized people were securing passes. But some local groups were annoyed:

The National Guard behaved just like it was a martial law situation -- which in fact it was not. There never was any martial law declared. They were supposed to come in and help the town. But some of them acted like it was martial law.

Possibly the status of the National Guard was not clear to all its men, although it was clear to its officers and Worcester officials.

On the afternoon following the tornado, all the groups concerned held a meeting in the mayor's office to straighten out the pass problem. Then the authority for issuing passes was confined to Civil Defense and the police. This decision was either unclear to the other organizations or some snag affected its public announcement. The following day, another meeting of Civil Defense, the police, and the Worcester Housing Authority was held in the mayor's office, in order "...to eliminate confusion which resulted from contradictory directives issued yesterday." At least the role of the National Guard was apparently clear: It was to have no pass-issuing authority. This final meeting on passes was held as scheduled. It was then agreed that the police were to have the sole authority to issue passes, but that these police passes could also be obtained from Civil Defense and the Housing Authority. The Housing Authority would decide which housing project tenants were eligible for passes in accordance with the safety of the tenant's building. But passes to the housing projects were to be under the control of the National Guard.

These arrangements were succinctly summarized in public announcements in the newspapers the following day:

The Police Department is the only agency with authority to okay passes into disaster areas, Mayor... said last night.

There no exception to that rule.

The story directed housing project tenants to get their passes from the Housing Authority. These would be valid only if they bore the signature of the Chief of Police, but were to be controlled by the National Guard. The meaning of "authority" over passes could not be clarified in the research. The situation was altogether confused and confusing.

This equivocal settlement was never clarified formally, but was informally adjusted in practice. How this adjustment occurred is not known. But by the fourth or fifth day after the tornado, the pass system worked smoothly. There was comparatively little need for passes by this time because safety hazards had been cleared and the reclamation of private property was almost finished. The final consolidation of pass-issuing authority in the hands of the police became a legal fiction. All passes bore the stamped signature of the police chief, but they could be secured from any of the agencies concerned.

For our purposes, the pass situation was significant for several reasons. It was precipitated by an outside organization's repudiation of local credentials. It was arbitrated by a commonly acknowledged superior authority (the mayor) rather than straightened out by the participants themselves. The rights of local groups were asserted. The decision to center authority in the police was the public confirmation of its overall field authority.

But the confusion in public announcements about passes indicates that forces outside the authority arena may influence events within it. Mass communications institutions may not be decisive in the general distribution of authority. But their choice of authoritative public spokesmen can have a definite influence during the early fluid period. They place before the public one perspective of authority and focus attention on selected authority groups.

Ambiguity in the authority system was reflected in conflicting public announcements and directives. The reliability of their sources varied tremendously. Some agencies or officials saw only a minor portion of the larger picture. Some were uninformed and others misinformed. There were some completely conflicting role conceptions as well as political jockeying and in-fighting.

Decisions were made without informing or consulting the people concerned. Sometimes these were announced publicly before they were communicated between agencies or filtered down to lower echelons. Ground-level personnel were confronted by people who were following directives about which these personnel were unaware. This intensified the "instability" of latest information and affected not only the public's confidence in the authority system, but also the confidence within the authority structure itself.

The publication of confusion as "news" intensified the ambiguity of the authority system and increased the pressure for clarification. The code of the journalist demands that he get the news and that the facts be straight. As one radio station manager pointed out:

A broadcaster has a deep public responsibility.
You must bear in mind the effects you are having on

listeners. If you are careless or even worse, irresponsible, you can bring people to the point of panic. Our job is to give them the news, to give it straight and calmly, and to get the facts. You have to be careful about rumors and exaggerated and unconfirmed reports. You have to be sure about the facts and give them without hysteria.

This concern for facts, however, was not matched by a stability of facts. It was difficult to verify a fact when the "facts" varied according to the organization and level of the persons consulted. For two days after the tornado, it was difficult to publish simple objective information, reports, or directives with any confidence. For example, if radio stations wished to give instructions about getting passes to restricted areas, they had no assurance that one agency would indeed honor the passes of another. Clearly, the station's reputation for reliability and integrity could be affected by factors beyond its immediate control.

In the face of conflicting reports from different sources, the journalist tries to identify qualified authorities and thereby sustains the pressures to clarify the structure. His search for accuracy inevitably brings him to those officials and groups about which there is the greatest agreement among the authorities themselves. The manager of a radio station formulated a remarkable statement:

Need builds the authority. Whom do you believe when you are broadcasting? Who is the real authority? There is a confused picture from confused lines of authority. They are superceding overlapping, and parallel to each other, all at the same time. I suppose there has to be a clash between them at first until they get straightened away. But the confusion still lasts for a long time.

So what do you do? You try to set up some kind of a standard. At first you say nothing is official unless it comes from the police. Then you decide nothing is official unless it comes from the police or Civilian Defense. Pretty soon the Red Cross gets in on it, and then nothing is official unless it comes from the police, Civil Defense, or Red Cross. Then you figure it has to be from the National Guard and finally from the Disaster Relief Committee. You see, the authority builds up to higher and higher levels. It is the need which builds the authority.

Q.: Do you mean that the list of organizations which have authority grows, or that higher organizations absorb the authority of the lower ones? In other words, after the disaster Relief Committee is operating, do you still recognize statements of, say, the Red Cross or the National Guard as authoritative?

Now, that's the sixty-four dollar question. Like I say, you try to set up standards, but you can never really work out anything completely satisfactory. It is pretty tentative and rule-of-thumb because of all the confusion. And there are no clear-cut answers that come out of this confusion. In the last analysis, you look for the facts first and then try to find out who can speak with authority about these.

But who knows the facts and can speak with authority about them? That is the dilemma of the broadcaster that we get back to again. Whom can he look to among all the officials who can tell him things authoritatively? That is why a central clearing house of information is important so that we know what we are dealing with and what we are giving out to the public. When there is just confused authority, the broadcaster has to do the best he can. He has to make private decisions about what he will regard as authoritative sources. As I said, you start small with the police, and as the need builds the authority, you gradually move up the scale to higher people and officials. But this is where we came in on this merry-go-round, and I suppose that it doesn't really answer your question. I don't know if there is any single answer.

The problems of the journalists underscored conflicting images of authority groups among agencies and public alike. Conflicting news reports probably stimulated organizations to tighten their neglected liaison and integration. There was no central "official" information source, but the mayor increasingly came to approximate one. The convergence upon him as the official authoritative source resulted from the efforts of press and radio people to stabilize their work situation. Nonetheless, increasing reliance upon the mayor undoubtedly reflected the confused picture and sharpened the need to arbitrate the authority of Red Cross and Civil Defense over social services and of the police, Civil Defense, the National Guard, and the Housing Authority over passes. Conceivably, if these conflicts and ambiguities had not arisen or if they had been resolved without the intervention of superior authorities, the search for definitive spokesmen would have stopped short of the mayor. The journalists contributed to the clarification of the structure that finally emerged. Essentially there is a conflict of responsibility between operating authorities and members of the Fourth Estate. On tornado night, reporters, photographers, radio commentators, columnists, news-reel cameramen, assorted technicians, and network executives converged upon Worcester and thronged agency headquarters. Informants claimed that the visitors seriously interfered with disaster work and indignantly regarded them as an imposition. One police officer complained that he was obliged to take two separate groups of top broadcasting executives on conducted tours of the devastated areas on tornado night. Almost the identical problem arose during the Netherlands flood:

...Various other transport aircraft as indicated before served to transport press and VIP's. At one point, the air became dangerously cluttered with aircraft and completely undisciplined. This was a serious hazard to rescue craft....

This would seem to be a general problem, regardless of type of disaster or other circumstances.

The effect on operations can be immediate and direct. Some informants claimed that reporters were tying up telephones in order to send out their stories. One informant observed that at Civil Defense headquarters where there were only two telephones:

Civil Defense was bogged down with reporters and top network brass. People had to waste time and drop what they were doing to talk with them. Important work was kept waiting. While I was there, one reporter grabbed the phone out of the Civil Defense director's hands to phone a story in.

Most significant, however, is the impotence that authorities felt in dealing with newsmen and influential outsiders. As one respondent heatedly stated:

But you had to be nice to these guys. If you weren't, they would butcher you in the papers. That's what gets me. You couldn't tell these bastards off or else they would crucify you. And there was no way to defend yourself, there was no way to answer them. Then, the next thing you'd know, the public would be down your neck.

Thus, authorities felt that their hands were tied and that they had to defer to journalists and VIP's or face the risk of unpleasant reprisals. That their fears were not imaginery is illustrated by the following news story which is quoted in full for its documentary interest.

PRESS COVERS DISASTER AMID DIFFICULTIES

Covering the disaster by press wasn't as easy as it might seem. There were complications, not the least of which was a measure of opposition by certain police, National Guardsmen and overzealous CD volunteers.

One reporter, driving up through...Street with a big "Press" sign on his car, was hauled up short by a determined young policeman.

"Where to?" he demanded.

Reporter Explains

The reporter explained he was on an assignment to the...Apartment for the Newspaper.

The Policeman shook his head firmly. "There's enough reporters up there now!"

This led to certain heated argument about whose right it was to decide how many reporters were enough. The reporter finally got through, but it took time.

In Shrewsbury

In Shrewsbury, one Captain...of "C" Company arbitrarily refused to let a Newspaper photographer take pictures in the hard-hit...Street vicinity.

He did say, "Sorry!" once in a while and "It's orders!", but other than that he held firm.

The damaged houses were only a few hundred yards away and the photographer offered to shoot from the edge of the road bordering the houses. But the captain was adamant. He even went further by refusing to let the photographer read a house number on...Street, and objected violently when another National Guardsman was asked to walk up to the door and read it.

(P.S. Captain. That plane swooping by an hour later carried a photographer with tele-photo lens who got the pictures after all. What a target to have missed!)

Several reporters, dog-tired from a hard night's work, who lived in the general areas flanked by the hundreds of traffic "police" who sprang up from nowhere, practically had to fight for their lives to get home to sleep.

They had their credentials -- the time-honored press passes which in most places are open sesame to almost anything. But on this night of nights it didn't seem to work.

Those reporters too tired to argue, shrugged their shoulders and took eight-mile circuits. Some of them did get home, to be sure. But it was a battle all the way.

The happiest Newspaper reporter resorted to subterfuge and put on his Naval Reserve uniform to do his work.

Nobody even dreamed he was really a reporter in disguise, and he was able to go anywhere he wanted to, even home to bed without being molested.

We are not momentarily concerned with the merits of the particular cases, but merely with the fact that the fear of repercussions is realistic.

The authorities, VIP's, and journalists have brief contact and then go their separate ways. The VIP's have a private audience in circles of political influence. The news transmission belt delivers journalists' images or caricatures of authorities to the public audience. Both private and public pressures affect the nebulous, but vital climate of opinion which impinges on authorities. If they were previously unaware of the pervasive public relations problems that dog the heels of disaster agencies, they are quickly disenchanted. The cloak of official authority provides no insulation or immunity from the demands of informal power groups, but, on the contrary, attracts them. The net effect of these pressures is to inhibit operational effectiveness, significantly in the interests of future security.

There is a conflict of interest between public authorities and people of informal power and influence who demand a certain level of cooperation, if not obeisance. The authorities recognize that these demands may inhibit effective operations, but at the same time see these people as potentially threatening if not punitive. In these cross-pressures, and despite their resentment and antagonism, the higher local authorities typically acquiesced and cooperated fully with the journalists.¹²

In summary, Worcester presented a sharp discrepancy between the locus of authority and overall field leadership. An amateur organization failed to meet its leadership responsibilities and the gap was filled by a professional police group. The police did not provide as effective leadership as appeared in the smaller areas of Holden and Shrewsbury, but they did furnish whatever supervision and integration did materialize. Their overall leadership was commonly accepted as authoritative by other operating groups, both local and outside. But insofar as there was a violation of the formal authority system, it created severe strains for the nominal and actual leaders (Civil Defense and police). They accommodated these strains by avoidance. The redistribution of effective authority was informally legitimized by a superior figure (the mayor) and subsequently was more openly symbolized in a concrete decision (over passes). This reversed the formally specified relations of the groups without re-defining their legal position. In other conflicts, however, where the same issues of competence and responsibility were involved, the superior power of the mayor rather than the competence of the police settled the locus of authority. Worcester also illustrated the strength of informal influentials in securing exemption from formal restrictions and deference from official authorities. In the process, emergency norms were subordinated to future interests.

Social Services

Worcester's social service needs reflect a disaster to a densely settled metropolitan area in which: (1) the impact zones were localized (unlike some floods) and (2) the community's means of coping with the problems were not severely impaired. Estimates of damage varied widely.

The victims did not depend heavily on the social services of emergency agencies. Yet an open fight flared in Worcester for authority over social services. This dispute, between the Red Cross and Civil Defense, was formally submitted to higher authorities for settlement.

The case is significant as the only open conflict in our study which was officially decided by superiors, and it merits close review on this ground alone. The limited demand for public help may be an important condition in the persistence of such an open conflict for authority.

Independent Pre-Disaster Planning. Prior to the tornado, the local Civil Defense and Red Cross chapter had made separate plans for emergency social services: Relief, housing, registration of victims, handling personal welfare inquiries, and medical mobilization. The Red Cross chapter had a refined disaster plan based on the experience of the national organization. The Civil Defense plan had similar operating procedures, but was generally in a much earlier stage of development. Moreover, each organization functioned independently of the other, and there was no coordination of their planning.

Red Cross. The success of the Red Cross plan presupposed that organization's control over the evacuation of victims and residents from the field. Casualties were to be funneled through a system of Red Cross field shelters where they would be registered and medically screened. Some would be removed to hospitals and others simply be given necessary first aid on the spot. Non-casualties who did not pass through the field shelters would be channeled to a central point outside the area for registration¹³ and emergency relief. Casualties at the hospitals would be further checked to identify any persons who may have been missed. Ostensibly this system would ideally insure that all disaster victims, whether casualties or not, would be registered. This information would then be consolidated at a central point: (1) as a basis for estimating victims' probable housing and relief needs, and (2) as information for the section handling personal locator and welfare inquiries from friends and relatives of possible victims.

To support the overall program of social services, there was also a comprehensive inventory of community facilities and various resources, including emergency housing, medical information, suppliers of food, and other services.

The Red Cross program of assistance for the hospitals was organized to supply emergency medical personnel and such requirements as drugs, blood, instruments, beds and bedding. The chapter's medical section included a special committee to integrate the work between hospitals. It was made up of Red Cross representatives and one doctor from the staff of each local hospital. In the event of disaster, each doctor was supposed to keep the committee informed of the activities, problems, and needs which developed at his hospital. In turn, the Red Cross would locate and supply whatever help was necessary. Thus, a liaison system was formally established by the Red Cross to support the hospitals.

This emergency medical plan also included a register of medical personnel in the area who might be mobilized for disaster work. The list contained 150 doctors, 35 dentists, 75 professional nurses, and 37 trained first-aid people. They were all classified by residence and availability for service. In addition, particular community facilities which might be pressed into medical service were earmarked, including a description of the Worcester Street Railway plant as a possible site for a temporary hospital. The emergency medical plan was to be supplemented by first-aid

teams in the field and in the field shelters, by blood collection, transportation services, and the duties of the Grey Ladies at the hospitals in looking after the morale and other needs of the casualties.

The success of the medical mobilization plan depended on an adequate supply of doctors and especially nurses. This applied to more than just the immediate rescue period. It was to be a continuing program to assure that trained medical staff would be available to maintain treatment of hospitalized casualties and out-patients after the rescue period. The supply of this supplementary staff was a major Red Cross commitment.

This overall disaster plan was fairly comprehensive. Basically, the Red Cross assumed direct responsibility for the emergency relief needs of victims and for the support of emergency medical care.

Civil Defense. The Civil Defense plan was much more rudimentary and had developed more unevenly. The proposed relief services were considerably more advanced than the medical organization. The social service division was staffed almost completely by social workers from the Worcester Department of Public Welfare. The division had designated the Worcester Auditorium as its emergency relief center in the event of disaster. Suppliers of food had been tentatively earmarked. A housing survey had been completed about six months before the tornado. Facilities for 3,000 people had been located in about 100 different places, including the dormitory facilities at two local colleges and the Worcester Armory of the National Guard.

The medical section of Civil Defense operated separately from the social services division. According to the formal plan, the medical division would control first aid stations, hospitals, emergency hospitals, food, sanitation, medical supplies, removal of bodies, mobile units; the staff would include an advisor of nurses and a chief of nursing aid. These general objectives were committed to paper, but were scarcely in the preliminary stages of discussion. First-aid stations and mobile units had never been activated. Shortly before the tornado, the agency appointed a nursing supervisor to act as an advisor of nurses. She had proposed that a registry be drawn up of doctors and professional and volunteer nurses. This suggestion was adopted, but had scarcely been implemented before the tornado. Medical technicians and other personnel had not yet even been considered. Many future projects remained to be outlined and the general medical plan was still amorphous.

Civil Defense had planned no system of field shelters (the crux of the Red Cross plan) nor other channels to guide victims from the field to the emergency relief center.

Formal Division of Responsibility. Despite their different stages of planning, the Red Cross and Civil Defense had similar objectives which ultimately duplicated services. Each organization regarded emergency social services as its legitimate sphere of responsibility and proceeded with little reference to the other agency. This procedure did not correspond to the formal, legal division of responsibility on the eve of the tornado.

The situation was most complex. Some effort had been made at the national level to clarify the relations between the two organizations. Six

months before the tornado, a "Joint Statement of Understanding" was issued by the two national offices. This laid down a policy agreement about their relations in disaster. (The full text of this Joint Statement of Understanding is reproduced in Appendix III.)

Its major provisions interpret existing legislation to the effect that Civil Defense should coordinate the disaster plans and operations of Federal agencies; these agencies are authorized to assist in disasters by furnishing various services and supplies (including food, housing, medicine) which may be distributed "...through the American National Red Cross or otherwise." (*italics inserted*) Moreover, the Red Cross should carry out its traditional social services in food, housing, medical care, and rehabilitation. "The Red Cross in carrying out its relief program will, as heretofore, exercise administrative and financial control over its own operations." The two agencies should ostensibly continue their joint and supporting action in the activities for which Red Cross is responsible. On the national and local levels, the agreement specifies, there should be liaison, mutual planning, and exchange of information between the two organizations. Finally, the Civil Defense agrees "to assist" the Red Cross in its relief responsibilities and the Red Cross agrees "to assist" the Civil Defense in its relief responsibilities.

As a policy agreement, the understanding seems fairly straightforward and clear. It assures cooperation and goodwill between two agencies which are apparently independent and autonomous. However, the provisions of the understanding are so broad and flexible that almost any construction can be put on them to justify almost any concrete action. The policy agreement can accommodate a wide range of specific operating arrangements and it may be difficult to assess their consistency with the policy. For example, a medical research team for the Committee on Disaster Studies made the following interpretation:

The agreement between the American National Red Cross and the Federal Civil Defense Administration which assigns to the former the responsibility for the general welfare and social rehabilitation of disaster victims and to local authorities /? the responsibility for the emergency rescue, evacuation, and emergency medical care of the injured, does not seem to have been clearly understood by the local representatives of the Red Cross and of Civil Defense /in Worcester/.

Clearly, then, the value of this guiding policy actually depends upon its interpretation and implementation locally, upon the detailed operating procedures which the local agencies jointly work out. In Worcester, there simply were none. Civil Defense attributes this to insufficient time. In a private communication, an official spokesman for the Federal agency stated that:

...these two national organizations had recognized the problems involved in working together in natural disasters, that they had already agreed upon operating procedures which might have avoided serious conflict, but that these understandings and procedures had not been presented to local Civil Defense and Red Cross

people in time for them to work out the detailed procedures and train personnel before the tornado struck them. Experience with more recent natural disasters has proven the efficacy of our plans for coordinating the efforts of public authorities in such disasters. We are confident that mistakes such as those made at Worcester will not be made again.

Despite the efforts to work out a satisfactory policy at the national level, the limited time for the change and integration of local programs left a different set of arrangements in force in Worcester. Some two years before the tornado, the Red Cross and the Worcester city government had entered into a contract whereby the Red Cross was to have exclusive responsibility for all emergency social services and all medical assistance to hospitals during civil disasters (and would be independent of Civil Defense direction); in case of military emergency, Civil Defense would have these exclusive responsibilities (and Red Cross would operate under its authority). This did not accord with provisions of the "Joint Statement of Understanding." At the time of the tornado, the contract between the local Red Cross and the city was still in force, although Civil Defense had apparently forgotten its provisions -- the Civil Defense mobilization plan still listed Red Cross as one of the special divisions on its staff and under its authority.

The Red Cross Authority Undermined. This confusing background makes it clear that there were three sets of conflicting images of the appropriate division of authority: The national agreement envisaged two independent groups working together; the local Civil Defense assumed it had the overall responsibility, while the local Red Cross chapter assumed that it had the overall authority -- and its position was in accord with the local agreement.

The events in the wake of the tornado quickly showed up the different expectations of the two local agencies. Both organizations launched their social service programs independently and a confusion of authority immediately ensued.

The highlights of the first night showed the following developments: (1) Civil Defense managed to start operating before the Red Cross in most of the social services which it undertook. (2) Most services which Red Cross regarded as its responsibility were undertaken by Civil Defense, the greatest overlap occurring in relief and registration of victims and the least duplication in auxiliary medical assistance. For example, Civil Defense did nothing at all about blood donation. (3) Immediately after the tornado, Civil Defense opened the Worcester Auditorium as disaster relief headquarters and announced this publicly over loudspeakers to victims in the field and to the community through the radio and newspapers. This tended to channel people to the Auditorium and to structure social services as a Civil Defense function. (4) The Red Cross was unable to establish a system of field shelters to control the flow of evacuees from the field. Consequently, that agency had neither victims coming to its relief center nor registration information on which to base its mobilization of relief activities. (5) The hospitals operated during the first twelve hours independently of the Red Cross, and the hospital

coordination plan was not used during the most critical early period.
 (6) The potential relief clients, the victims, attended to almost all their immediate, short-range needs privately without recourse to the Red Cross or other public agencies.

These early events seriously undermined the public position of the Red Cross as the responsible community agency and implicitly threatened its authority. The head of one Red Cross division stated:

The City assumed it would take over most of the functions of relief and so on, in spite of the agreement that the /Red/ Cross had with the City that we would have charge of them. The Red Cross had to establish its rights to these.

The agency quickly took steps to defend its authority over social services and a difference developed between the Red Cross and Civil Defense. On the morning after the tornado, the dispute for authority was formally submitted to the ad hoc disaster committee of the city government for official settlement.

In order to understand the significance of the decision which the disaster committee made, it is necessary to review the actual operations of the two organizations in some detail. This will clarify the conditions under which the conflict arose and the context in which the disaster committee arrived at a decision. Our data cover registration and personal welfare inquiries, relief and medical activity. They throw strong light on the amount of reliance by victims and others on the public agencies, and hence upon what was basically at stake in the dispute. We will review these services as background to the conflict resolution.

Relief. Reports indicate that the Salvation Army was the first organization to get into the field with food and the Civil Defense was the first agency to get a general relief and welfare program underway. The Auditorium was opened as the emergency relief center. Within an hour of the first radio announcement of the tornado, 70 members of the Civil Defense social service division (about one half the staff) were getting things organized. Some staff people began to contact major suppliers with whom previous arrangements had been tentatively made. Emergency feeding, mainly sandwiches, coffee, and milk, was improvised. Dormitory and feeding facilities were opened in the two local colleges and in the Worcester Armory. Baby food and other infant requisites were procured. Arrangements were made for the reception and registration of victims.

Since public announcements had designated Civil Defense as the disaster relief agency, the response of the general public and of community organizations centered on the Auditorium. Offers of help began to flood in immediately. Untrained volunteers came to lend a hand and clergymen of various denominations were in and out all during the evening. The Salvation Army offered whatever assistance was needed and promptly brought blankets and cots which were required and set them up in the corridors and around the Auditorium. A local psychiatrist volunteered his services early in the evening. With the help of two other doctors and six nurses who came in, he set up a medical aid station in the Auditorium which operated

Throughout the first night. Supplies for this aid station were sent from State Civil Defense headquarters at Framingham.

Other spontaneous offers of help almost overwhelmed the staff who were struggling to bring some order out of the confusion. Many contributions were simply brought to the Auditorium and deposited. These included food, clothing, and all manner of miscellany such as diapers, cribs, etc. Clothing donations burgeoned swiftly and many of the staff spent a large part of the first night feverishly sorting the growing piles. Other offers, especially housing, came in by phone; these were recorded.

Not all the offers were an unmixed blessing. They often demanded on-the-spot decisions which staff members were unprepared to make. For example, one phone call less than two hours after the tornado briefly announced, "I am a caterer. I can feed 500 people in two hours. Where shall I bring the food?" Civil Defense simply had no ready answer.

In the confusion of getting organized, victims began to arrive. They were registered by social workers who recorded a minimum of simply identifying information: Name, home address, temporary location (if known) and any pressing emergency needs. The people were fed. If clothes were needed, the victims were free to help themselves or be helped, but comparatively little clothing was taken the first night. Other immediate needs were filled as well as possible. If clients needed money for emergency items (such as spectacles) they were given cash, usually in amounts of less than fifteen or twenty dollars. Presumably this money came from an emergency fund authorized by the city. During the first 18 hours, which covered almost all the relief provided through Civil Defense, 31 persons received a total of \$485 in cash assistance.

The facilities for emergency housing were almost completely by-passed by the unhoused victims. Civil Defense reported it assigned 71 people to housing in the college dormitories and in the Armory the first night. At one dormitory, the supervisor said that only 20 people remained overnight although more than this had come. According to the Red Cross, all public authorities together housed only 41 people. Apparently one week after the tornado, there were still 31 people using these emergency housing facilities. After the first night, the Red Cross ultimately assigned about 250 people (almost 60 families) to dormitory housing during the next seven weeks. The minor variation in the figures for the first night is unimportant in view of the estimated 8,000-9,000 people left temporarily homeless (there were over 3,000 residents in one housing project alone). Over 99% of all the displaced people (at least 2,000 families) found their own accommodation with relatives, friends, neighbors, and even strangers.¹⁴ The low use of emergency housing set up by public agencies is one basic index of the preference for self-help and mutual aid as opposed to public assistance.

In retrospect, it is clear that the relief center at the Auditorium was shaped only slightly by the advance plan or by steps which Civil Defense initiated. Rather, the flood of unsolicited help created pressures which were met by improvisation. These immediate, unplanned decisions had cumulative results in the organization of the center. The inexperience and

lack of a plan were less of a handicap in handling 400 clients the first night than in handling the mass offers of help, whether of supplies, facilities, or untrained volunteers. This is a fundamental problem for any disaster leadership.

Not all of the 400 people who passed through the relief center the first night sought relief (some were looking for family and friends) and not all of them were tornado victims. Some of them were simply regular relief cases on the rolls of the Worcester Department of Public Welfare. Subsequently, the director estimated that about one half the applicants for help were such regular relief cases, but she could not judge what proportion of them were bona fide tornado victims. This seems to parallel the pattern in the Waco, Texas, disaster where the poor turned immediately to public agencies for help. On the other hand, in Judsonia, Arkansas, there was considerable difficulty in persuading working class groups to accept public relief. These variations may be bound up with ethnic patterns (different values may be placed on impersonal sources of aid) or with mobility patterns (there may be no relatives or close friends in the community who might help) or with aspiration patterns (some lower class groups prize the independence which they associate with the middle class).

Across the street from the Auditorium, the Red Cross headquarters was apparently the scene of very little relief activity, doubtless because victims had been directed to Civil Defense. If non-victims who were regular public relief clients made up a significant proportion of the 400 visitors to Civil Defense, their ignoring of the Red Cross is even more understandable. Few details could be secured about the Red Cross relief services the first night. There were almost no housing applicants and apparently very little clothing was distributed. Coffee and doughnuts were generally available at the chapter headquarters and in the field. According to one source, the Red Cross was said to have provided food for perhaps 3,000 people in Worcester the first night, but this report could not be confirmed. In the present research, Red Cross respondents made absolutely no mention of any mass feeding the first night. We could uncover no evidence of large-scale feeding by the Red Cross or anybody else in Worcester. It is possible that coffee and doughnuts were distributed to 3,000 people. But in view of the Red Cross reticence in the matter, the data in hand, and the absence of confirmatory data from any other quarter, the report must be regarded with reservation.

As will presently be seen, detailed figures are available for the overall Red Cross operation in Worcester, but there is nothing appreciable on the first night's work. This is evidence of low activity (rather than a data gap) because the Red Cross customarily releases detailed figures on all its significant services. This assumption is strengthened by the separate intimations of two Red Cross supervisors that relief services on the first night were not extensive and almost certainly did not equal the help given by Civil Defense. A highly respected chapter supervisor explained, "You must understand that the first few hours or days are organizational, when you are getting yourself set up to operate." Thus, aside from the one unconfirmed report on feeding, the Red Cross apparently provided significantly fewer social services to victims on the first night than Civil Defense.

When the total number of tornado victims is considered, the two major public agencies together furnished comparatively little relief. There was some feeding, some re-housing, some clothing was dispensed. The most important help may actually have been the urgently needed infant supplies and petty cash assistance for specialized items. Public agencies apparently attended to only a small fraction of the total need whereas private efforts accounted for the bulk.

The unorganized community response was more significant than that of the formal agencies. This is highlighted by the mutual aid channeled through the commercial radio stations which "coordinated" some informal relief efforts. For example, a call to a radio station would result in an announcement that Mrs. Jones could put up three people in her home and that she would pick up the first three persons to phone her at a given number. Or an announcement would be made that Mrs. Smith, a tornado victim, needed a baby crib and she was temporarily staying at a given address. Offers of help and requests for aid were all broadcast. Unfortunately, the research could not check these leads to determine the live contacts that were established between donor and recipient and the aid that actually materialized through the commercial radio. There is reason to suspect that comparatively little actual help resulted and that victims were mainly helped by their hosts. The commercial radio, however, documents the many choices open to victims, even those who had no intimates in the community, but who preferred private help.

The Worcester relief data refer to the primary survival needs of non-casualties. But beyond food, clothing, and shelter were other needs, perhaps equally important, in the establishment of connections between separated family members.¹⁵ This personal locator service was one vital function of the radio stations' informal registration and personal welfare inquiries. These data, which we will now examine, extend our analysis of the victims' reliance on public agencies to a much broader interested public.

Registration and Personal Welfare Inquiries. The registration process serves several functions: it provides a basis for estimating probable relief needs; it helps to locate and account for people; it provides a personal information service; it is one means of re-establishing broken personal contacts, both locally and between local people and out-of-town relatives and friends. Its effectiveness depends on the number of victims who are registered and the extent to which other people rely on this source of information. In Worcester, Civil Defense and Red Cross registered comparatively few of the potential registrees, and inquiries were conspicuously directed through private channels, although people used the Red Cross far more than any other social service agency.

We have seen how Civil Defense registered about 400 people the first night at the relief center. The agency had almost no registrations thereafter. Since there was no systematic routing of evacuated victims through a "reception center," these were all voluntary, non-casualty registrants.

Because Civil Defense had directed people to register at the Auditorium, the Red Cross intentionally refrained from any public announcements which might lead to public confusion. It did not call for registration

the first night, but did register the relatively small number of victims who did visit the chapter headquarters.

After the tornado, the Red Cross made an abortive attempt to follow its original disaster plan by setting up first aid screening stations in field shelters. Although this proved unsuccessful, some effort was made to register victims while the experiment lasted. The registration attempt did delay the hospitalization of some casualties and provoked deep resentment. One field investigator reported:

The Red Cross was rather severely criticized for insisting on registering casualties before they were transported or evacuated to the hospitals. This slowed up the whole process to a great extent and meant that people were waiting to be transported to hospitals while Red Cross was filling out cards. The net result was that private automobiles would pull up along side the line of waiting casualties, place the casualties in the cars and take them off to the hospitals. This /also/ resulted in many people going unnecessarily to the hospital.

Few registrations were secured in the field in this way.

In addition, the Red Cross sent two workers to the hospitals to register casualties as well as persons looking for injured relatives and friends. By early morning, some 12 to 15 hours after the tornado, the Red Cross regarded its census of hospitalized casualties as complete. This casualty list was probably a consolidation of the registration by the Red Cross workers and the census of patients taken by the various hospitals. These names which came from the hospitals are important to bear in mind as "involuntary" registrants, people who did not register on their own initiative.

Aside from the Civil Defense and the Red Cross, some further registration was apparently undertaken in the field at the three public housing projects, presumably by the Worcester Housing Authority, although there are no data on this activity.

The next problem was the consolidation of registration information from various sources, and this became another focal point in the Red Cross-Civil Defense dispute. One issue involved the interpretation of "proper registration." Red Cross registration information is tailored to its rehabilitation program whereby disaster losses and financial assistance are assessed against an applicant's financial resources. Accordingly, Red Cross collected detailed financial data on people in the registration process. Civil Defense registration was restricted simply to information on identification and location. No questions were raised about the registrant's losses, earnings, work situation, or financial status. Whether for this or other reasons, the Red Cross refused to accept responsibility for the accuracy of information collected by Civil Defense, thereby denying the legitimacy of the Civil Defense registration. Civil Defense said that it offered its registration file to the Red Cross, while the Red Cross claimed that Civil Defense had made it inaccessible.¹⁶ The merits of the conflict are less important than the sheer fact that there was a conflict

on this issue. As a result, there was no consolidation of the registration information of these two agencies, despite the fact that Red Cross had comparatively little registration data aside from the hospital census.

The lack of consolidation had different effects on the two agencies. Civil Defense received very few personal welfare inquiries at any time, and almost none after the first night. The Red Cross, however, ultimately received several thousand inquiries about possible victims, so that its lack of registration information other than the hospital census was a severe handicap to the agency. These inquiries lasted about six days and then dropped off to almost nothing. The biggest rush of local inquiries came during the first two days. After a lull, there was a pick-up from out of town between the third and sixth days, largely from servicemen overseas. Most inquiries from out of town came over the private teletype lines which were installed at the Red Cross headquarters on the night of the tornado. Some came over a HAM radio network servicing the Red Cross.

The agency handled the personal welfare inquiries as well as possible for the first five days. It depended upon the casualty lists compiled by the hospitals and the small Red Cross registration in the field, at headquarters, and in the hospitals. The total registrations from these combined sources was probably well under 1,000 names. These data were supplemented by following up other informal information, such as the potential victim's place of employment (when contained in the inquiry), and by Red Cross volunteer workers' knowledge of the community. When these sources were unproductive, inferences were drawn about the person's probable welfare. If the potential victim lived at an address outside the disaster zone and if his name were not on the casualty list, it was assumed that he was probably all right, and this information would be summarized for the inquirer.

After struggling along in this fashion for almost a week, the Red Cross stumbled onto a windfall. Quite suddenly on the fifth night after the tornado, a master list of tornado evacuees was quietly and unexpectedly delivered to the personal inquiry section of the Red Cross. This master list classified people according to pre- and post-tornado addresses. The completeness of the master list could not be established during the research, nor whether it covered only public housing project tenants, or all affected residents in Worcester, or people from the surrounding towns as well. The list may have been compiled by the Worcester Housing Authority, although this is conjectural, and the research could not trace its origin.

This master list was the only consolidation of registration information in Worcester. Although it was delivered after the main pressure of welfare inquiries was over, the Red Cross thereafter relied on the master list as authoritative. But those in the agency had absolutely no idea who compiled the list or where it came from.

Two aspects of the situation are noteworthy: (1) Neither agency in competition for authority had anything to do with the consolidation of the information; (2) Where Red Cross refused to accept the registration by Civil Defense, it was willing to acknowledge as reliable the information from an unidentified source.

This incident fits into the overall relations between the two agencies and documents their dispute basically as a fight for dominance and control. The Red Cross used two different standards to judge the suitability of similar information from different sources. In its crudest (and oversimplified) form, the information from its competitor was "no good;" the information from any anonymous non-competitor was "OK." Where its authority was disputed, Red Cross rejected the possibility of help; where its authority was not an issue, it accepted the proffered help. This suggests that the Red Cross may make acceptance of its legal authority a condition of full cooperation with other agencies (although this need not extend to its direct relations with clients). Later, other evidence will appear that authority rather than service to victims was the controversial issue, and that Red Cross did not make the rendering of service contingent upon the successful defense of its authority.

Orientation to Public and Private Communications Channels

The data on relief indicated extremely low reliance upon public agencies, but there was no basis of direct comparison between the use of agencies and of private channels of help. The registration and welfare inquiries do provide a crude comparison between public and private modes of contact. Although the available figures can only be approximate, they provide additional perspective on needs which are served by public and semi-public agencies and those which are handled by direct private action (essentially self-help).

To assess this, we can distinguish as private communications channels those which allow direct person-to-person contact and do not depend on information in the hands of agencies. There were two channels of this type: the telephone call and the telegram. Public media involve no direct person-to-person contact. These included the public and quasi-public organizations which we have mentioned: Red Cross, Civil Defense, the hospitals, HAM radio network, and the commercial radio stations. The registrations and welfare inquiries through the public media are fairly straightforward. For purposes of our comparison, their private equivalent would be phone calls and telegrams made to inform others of one's own situation ("registration") or to inquire about others' welfare ("inquiries"). On this basis, we can then compare the amount of registration and inquiry flowing through private and public channels.

Public registration. Civil Defense registered about 400 people, and practically no activity came after the first night. Red Cross registered far fewer than this in the field and at headquarters. A liberal estimate would be 100 registrations. The combined Civil Defense-Red Cross total might come to about 500. If we allow even a 100% error of estimate to allow for Red Cross registration after the first night, the two organizations can be credited with at most 1,000 registrations. Although estimates of hospitalized casualties varied, the highest unofficial census reported 700 casualties in Worcester hospitals. If we accept this figure, and allow even as many as 200-300 non-casualties registered by Red Cross workers in hospital corridors, the total registration at the hospitals would not exceed 1,000. Although the HAM radio handled some 900 messages during its week of service to the Red Cross, these were almost exclusively incoming inquiries. Thus, the estimated grand total for all the hospitals, Civil Defense, and Red Cross together would amount to less than 2,000 registrations.

There are no data on the activity of the Worcester Housing Authority. The master list which mysteriously appeared at Red Cross seemed to contain about 1,000 names, and in the absence of other data, we can tentatively even credit these to the housing agency.

If due allowance is made for repeaters -- people who called more than once or more than one radio station -- it is quite likely that the commercial radio stations handled as many registration announcements¹⁷ as the combined hospital-Red Cross-Civil Defense total, or about 2,000 people.

Thus, the total of all registrations assigned to all public and semi-public institutions amount at most to roughly 5,000.

Private Registrations. These consist of telegrams and only outgoing long-distance phone calls. There are no records of local telephone calls, of incoming toll calls, nor, needless to say, of people finding each other on a face-to-face basis.

Western Union handled about 40,000 telegrams in the first forty-eight hours before its traffic slackened. We can allow a total of 50,000 disaster messages. These were almost exclusively between private individuals. The Western Union manager estimated that almost one-third of these telegrams were outgoing (or "registrations") and about two-thirds incoming (or "inquiries"). Thus, voluntary "registration" by telegram alone amounted to about 15,000 messages.

Outgoing long-distance phone calls averaged about 15,000 daily for three or four days before slackening. We can round off the telephone company's long-distance "registration" to a conservative total of 60,000.

Thus, exclusive of local calls, private telephone and telegraph "registration" amounted to at least 75,000. This figure may be somewhat inflated by "repeaters" with more than one message. Even if we were to write off one-third of the total to allow for "repeaters," this would still leave at least 50,000 "registrations" undertaken privately. (This does not allow for under-enumeration; the welfare of several family members is reported in each call.)

Even the crudest account conservatively fixes the relative importance of public and private registration activity in the total disaster picture. Official public agencies registered perhaps 3,000 people and semi-public institutions (radio stations) another 2,000. The private channels accounted for minimally ten times as many within the limited data at our disposal.

The same procedure applied to assess personal welfare inquiries shows that even on a conservative basis, the private total (85,000) is more than ten times as large as the public and semi-public activity (7,500).

A complete summary of the estimated figures, adjusted for errors of estimate, is consolidated in Table 3 for reference.

Table 3

ADJUSTED ESTIMATES OF "REGISTRATION" AND "PERSONAL WELFARE
INQUIRIES" MADE THROUGH PUBLIC AND PRIVATE CHANNELS IN WORCESTER

	<u>"Registrations"</u>	<u>"Inquiries"</u>
<u>Public Agencies</u>		
Red Cross (inc. HAMS)	1200	6000*
Civil Defense	800	--
Housing Authority	1000	1500**
Radio Stations	<u>2000</u>	<u> </u>
Totals	5000	7500
<u>Private Media</u>		
Telegram	15,000	35,000
Telephone (long distance only)	<u>60,000</u>	<u>(50,000)</u>
Totals	75,000	85,000

*Rounded from the official figure of 5800 for six days.

**Includes inquiries at hospitals.

Our immediate concern is not to determine absolute levels of inquiry and registration activity, for our data allow little precision. Rather, we are more interested in comparing directly, if crudely, the relative preference for private or public channels of action. The private channels are preferred at least ten times as frequently as the public. It is quite likely that if all the facts were available (viz., local calls), the preference might be three or four times as high.

This may also mean that the low reliance on public agencies for relief services (for example, in housing) reflects attitudes in the community that are far more widespread than the victims' apathy or aversion to public institutions. Other people may have stepped in to take care of victims so that few of them appeared at public agencies. But when we consider a wider public which can choose freely between public and private channels of action, the registration and inquiry patterns indicate a strong spontaneous preference for the private outlets. Although few members of this broad public were victims, their action must also be included in the larger picture of disaster needs.

These data, then, add further perspective to the Red Cross-Civil Defense dispute. Our final set of background materials covers medical aid.

Medical Assistance. The tornado's casualty toll cannot be definitively established. Different surveys covered different areas and a different number of hospitals. But additional discrepancies between different sources appear as well. One unofficial hospital census reported about 700 casualties in Worcester hospitals, although not all these cases were necessarily Worcester residents. Another investigator reported over 1,200 cases in 15 hospitals throughout the greater Worcester region the first night, and of these 179 were still hospitalized after one week, 90 as prospectively long-term patients. The Red Cross figures of almost 400 hospitalized casualties and an additional 400 not hospitalized may be taken as minimal for Worcester itself.

The sudden strain on Worcester's hospitals was distinguished by two consequences: (1) the medical mobilization plans of the disaster agencies simply broke down; (2) the hospitals operated independently of them as a self-contained professional community.

During the critical first 12 hours, there was almost no contact between the hospitals and the service agencies. The Red Cross reported that it could not even phone the hospitals for two hours because of jammed switchboards. When hospitals needed anything or tried to coordinate their own operations a bit, they took care of problems themselves or referred to other hospitals, both locally and out-of-town. In this way, when they ran short of blood or plasma, they had some sent in from other cities. They also bled their own donors. Other supplies were occasionally sent from one hospital to another. The hospitals arranged their own transfer of patients, somewhat in accordance with different hospitals' ability to absorb the influx of patients, although three hospitals handled almost 90% of the cases admitted. The actual transfer of patients started within two hours of the tornado. Some division of labor was worked out. Two neurosurgeons who specialized in this kind of surgery operated at two hospitals and patients with head injuries, which were frequent in the disaster, were brought to them. Finally, the carefully planned hospital liaison committee of the Red Cross simply never got started. The hospital staff doctors on whom the plan depended were too busy treating casualties to attend to the liaison function. Their primary commitments were predictably medical rather than organizational. Thus, the hospitals worked the first night with the personnel and facilities at hand (including many voluntary doctors and nurses) without recourse to the emergency lay agencies.

The medical activities of Civil Defense were extremely limited and reflected the very early stage of its planning. Few local doctors or nurses looked to the agency for direction. There is little evidence that they knew of the paper plan for a medical section and they simply ignored the organization. Some medical people from out of town did volunteer their services through Civil Defense. Since agency personnel had no clear picture about hospital needs, they referred the professional volunteer to any one of the local hospitals. After several hours, when it became apparent that the hospitals were adequately staffed, medical personnel were asked to inquire again the next morning. But no record of these outside doctors and nurses was kept. Aside from these inquiries, Civil Defense sponsored the medical aid station in the Auditorium relief center the first night. All these activities were initiated by the people

volunteering their help. Civil Defense did, however, manage to locate a few critically necessary items, especially an oxygen tent, for beleaguered Holden Hospital. Except for this help, the Civil Defense medical assistance was never a significant factor, either on the first night or afterwards.

On the other hand, the Red Cross made some effort to use its advance plan, but with little success. A supervisor of nurses from the national headquarters bluntly asserted:

The initial plan for medical mobilization just flew out the window because the local Red Cross people are too inexperienced.¹⁸

The first day and a half were largely devoted to the recruitment of personnel, collection of blood, provision of transportation, and organization of the later medical support of the hospitals. People on the register of medical personnel, including nurses' aides trained by Red Cross, were called soon after the tornado, but with indifferent success. Medical people did not learn about the disaster through the Red Cross or wait to be summoned by the agency. Doctors, nurses, and other specialists responded spontaneously to the radio or to other sources of news about the tornado and went directly to hospitals or to the stricken zone. Many of them, however, came to Red Cross headquarters for information about where they were most needed. The ineffectiveness of Red Cross recruitment is less significant, perhaps, than the professionals' spontaneous reliance upon Red Cross when they wanted direction or guidance. Although its information was limited, the Red Cross was far more important to them than Civil Defense.

The Red Cross also mobilized nurses through Boston district headquarters and from other towns in the region. The chapter furnished transportation for medical personnel when it was necessary.

The Worcester chapter assumed (correctly) that blood stocks might run short, and it did successfully build up supplies of blood. It arranged to have blood sent from Boston, and the chapter opened its bloodmobile within an hour of the tornado so as to bleed the voluntary donors who spontaneously began to gather at chapter headquarters.

The agency's initiative for the first day or so had only negligible effects on the medical situation, but thereafter it assumed great importance. Two days after the tornado, a continuous program in support of the hospitals began to take effect and this was sustained for several weeks. A stable supply of nurses and some doctors was recruited from a sizable region. Ultimately, the Red Cross mobilized 30 doctors and close to 600 nurses (about one-fourth of whom the Red Cross paid). Red Cross scheduled these medical personnel, assigned them to hospitals, and furnished their transportation. It is not known how much of this recruitment was owed to the National Red Cross personnel. In any case, the organization maintained these services until the regular hospital staffs could assimilate the long-term disaster patients into their routine.

After the initial stages, the Red Cross also introduced some of its other auxiliary medical services: Grey Ladies' visits to patients, maintenance of current out-patient records, follow-up visits to out-patients at home, financial assistance for medical expenses, etc.

In overall perspective, except for the collection of blood, the medical mobilization plan got lost in the early confusion. Subsequently, the agency got organized and maintained a schedule of volunteer nurses to supplement the hospital staffs for several weeks. This program was put into operation about 36 hours after the tornado.

* * * * *

Resolution of the Conflict. Although the data reviewed in this section have covered services after the first night, it was the early activities that precipitated the Red Cross-Civil Defense dispute and brought it to a head. This developed very early. The friction between the two agencies was pointed out by other independent observers. In referring to Red Cross and Civil Defense, one team of researchers noted:

Before each of the other agencies discovered for itself the role it should play during and subsequent to the disaster, there was considerable argument and some display of emotion.

Another researcher, discussing inter-agency conflict, commented:

These squabbles took two forms: Squabbles over the justification for "red tape" (e.g., in Red Cross registration and inquiry practices); and squabbles over the "possession of the disaster"....

Squabbles, however, between local agencies--e.g., between the Red Cross and Civil Defense over welfare administration--also grow out of this competition for the privilege of giving help. (Wallace, 1956: 145-146)¹⁹

The Red Cross was quick to defend its prerogatives in response to the early events. The agency primarily wanted to clarify the jurisdictional question and affirm its authority on which Civil Defense had apparently infringed. Four hours after the disaster, top officials of the Red Cross held their first emergency meeting to plan operations. One item on the agenda was how to meet the problem presented by the Civil Defense activities. The Red Cross decided to avoid a public fight and settle the issue with Civil Defense and the city formally, but privately. One Red Cross official explained:

Here in Worcester, the Red Cross simply deferred to Civilian Defense /at first/ and tried not to confuse an already loused up situation any further. That's why we didn't ask the public to register with us again /the first night/ after Civilian Defense did. What we really did was hold back in order to satisfy Civilian Defense's

need for more experience. Then we tried to straighten it out on a policy level. But we didn't want to drag the public into it.

"Straightening it out on a policy level" meant submitting the conflict for settlement by the emergency Disaster Committee on the morning after the tornado. This committee consisted of city officials, municipal department heads, representatives of state government and of stricken towns in the region, and the heads of other operating agencies. At the meeting of the Disaster Committee that morning, the Red Cross case was presented by an official from the national headquarters who arrived in Worcester shortly before the meeting started. It soon appeared that deeper issues were at stake than the sheer local dispute. By the time the meeting opened, the Worcester chapter of the Red Cross may have become almost a pawn in a larger strategy.

National Politics and Local Fronts. To the national Red Cross, the Worcester situation was another local recurrence of a general problem which had to be met and dealt with repeatedly. The problem had been broached in the "Joint Statement of Understanding" which had been concluded on the national level, but at the time of the Worcester tornado, there was no assurance of conformity by local agencies. One member of the national Red Cross staff asserted:

Civilian Defense just barges in without looking to the right or left, without asking anybody. But the Red Cross has run into this before in other places and we come to expect it. But this is the way it always is. There are always meetings afterwards to clarify the situation and we are always holding post mortems. We try to work it out on a national level first and there isn't too much trouble. We usually get together on pretty clear agreements nationally. But there is no guarantee that the local Civil Defense will behave. I don't know if they always know what the national policy is. But when something ever happens, the local groups just barge ahead. They seem to be very jealous about getting in on the act.

Clearly, the national Red Cross felt that it was confronted with a chronic "local Civil Defense problem," perhaps because the national Civil Defense had no viable, direct administrative control over the local groups and could not achieve "organizational discipline." Consequently, the national Red Cross evidently felt that, to implement the agreements of national policy conferences, it would have to take direct action itself. Such a decision could be satisfied in emergencies by a strategy of exerting attrition and pressure locally.

The adoption of such a course had several effects. One was the obvious imposition of organizational discipline upon the Worcester Red Cross chapter. A second was the projection of national politics onto the local chapter and onto its relations with other local agencies. Quite apart from precipitating jurisdictional disputes, this may also have strong repercussions affecting the status of the chapter in the community. One

observer in Worcester reported:

The local agencies were able to work together in complete harmony, Catholic, Protestant, Community Chest, Public Welfare, and local Red Cross chapter. However, as soon as the national staff of the Red Cross Disaster Service arrived in town and started releasing its own publicity, the various local agencies started to compete for credit. This resulted in some unfortunate situations which did not add to the smoothness of the relief operations.

Third, the pressure of national political issues hindered strong efforts for an amicable settlement and a recovery of local solidarity. The fight was effectively taken out of the hands of the local chapter which increased the likelihood of a "showdown" and reduced the chances of compromise. Finally, the intervention of the national office shifted the relative status of the conflicting parties. In place of two local groups, the negotiations now involved a young local agency (Civil Defense) and an experienced national organization (American National Red Cross). This had two consequences: (a) Although it may not have been decisive, the coercive prestige of the national organization was a potent factor in negotiations; (b) as outsiders, the Red Cross negotiators were free from any informal local pressures. They would soon leave the community and would not have to live with any unpleasant local repercussions of the conflict.

It was clear that the dispute was basically a struggle for dominance. The Red Cross kept the question of authority completely separate from that of rendering services to victims. The latter would go on regardless, but the authority problem was an independent matter of principle. While the relations between the Red Cross and other public groups would be affected by the authority settlement, services to victims in need would not be held up. This was clear from the way in which the Red Cross refrained from any confusing public announcements the first night and from the decision to settle the dispute without involving the public. Further, at the very time that the Disaster Committee was meeting to judge the arguments in the fight, the Red Cross chapter, Civil Defense, and other local agencies were cooperating in one general relief program, a joint venture of many agencies participating in the Red Feather services. Because there were no claims to overall authority for these social services, Red Cross apparently did not regard this as an infringement of its rights. The following news item appeared on the morning after the tornado:

AGENCIES ORGANIZE TO HANDLE SHELTER, CLOTHING REQUESTS

Worcester social agencies went to work this morning to handle requests for shelter and clothing from those made homeless.

A pool of staff workers from the Red Feather services and other voluntary agencies organized the plan at a meeting this morning in the Community Chest offices.

Workers are being provided as interviewers to provide assistance to those people in the disaster area.

Workers are manning offices at the Housing Authority,...Red Cross,...and Civil Defense headquarters in the Worcester Auditorium.

Thus, in this situation, the Red Cross willingly cooperated with Civil Defense and other agencies to help victims. The voluntary programs did not highlight or jeopardize anybody's authority. The fight with Civil Defense was a separate issue to be threshed out.

The Disaster Committee Meeting. At the emergency meeting where the dispute was aired, the Red Cross based its claim to authority on several grounds. Essentially it argued that: (1) The contract between the Red Cross and the city gave Red Cross exclusive authority over social services in the event of natural disaster. This contract was still binding. (2) The current crisis was a natural disaster, not a military emergency. Hence, there was no basis for the subordination of Red Cross to Civil Defense, but rather the reverse. (3) Red Cross had a long-standing tradition of experience with disaster. It was specially competent and had wide public acceptance. (4) Civil Defense lacked experience, competence, and prestige. One Red Cross official asserted:

Civilian Defense is just too damned inexperienced. They just don't know enough about dealing with disasters. They don't know what their own responsibilities are, and they usurp the functions of other agencies. And Civil Defense just simply has no public acceptance.²⁰

In rebuttal to the Red Cross case, Civil Defense could advance two arguments: (1) Its performance during the first 16 hours of the tornado was objectively as good as that of the Red Cross and it satisfactorily met the emergency needs of the victims who appeared at the relief center. (2) Civil Defense represented a new experiment in the coordination of all community action in emergencies. Although the ultimate consideration may be military emergencies, the insistence on a distinction between military and non-military crises in the face of human need was formalistic.

Something of the atmosphere of the Disaster Committee meeting is reported by a psychiatrist who was present:

At this meeting, all the top men were there. Nobody knew what was going on /about the disaster/ yet. We were all in the dark and we were trying to find out what was happening and see if we could make sense out of everything to decide what was best to do. Everybody was doing the best they could. But things were still confused.

The Red Cross had this guy from Washington there. He just got into town that morning half an hour before the meeting. And he didn't know the first thing about what was happening. We didn't know what was going on.

But he really didn't know what was going on. And this bastard who didn't know a damn thing just stood up there as cool as you please and said the Red Cross could handle everything, they could take care of it, everything was under control. /It/ made no difference what it was, they could take care of it.

Now everybody knew this wasn't so. The local people at Red Cross were swamped. Everybody saw it. They didn't have any reserves. They were just struggling along the best they could with what they had--just like everybody else. They were doing their best, but they didn't have anything under control.

And even though they /the Disaster Committee/ knew that all this /the Red Cross assertion/ wasn't true, everyone felt embarrassed and helpless as hell. No matter what you said to this guy /from Washington/, he just answered the same thing--the Red Cross could handle everything.

The Disaster Committee's embarrassment and helplessness are strong evidence that the Red Cross was arguing from a position of strength. This has important bearing on the fate of Civil Defense as an experiment in social change. Most operating agencies were unaffected by Civil Defense and formally acknowledged its legal authority at the same time that they basically ignored it. But the authority and autonomy of Red Cross were directly affected. In defending itself, the Red Cross pressed its claims by contractual obligation, insisted on the legal precedent for distinguishing military from non-military emergencies, appealed to the moral force of tradition, experience, and prestige, and challenged the prestige and competence of Civil Defense. Civil Defense could point to no comparable competitive resources: Legal grounds, formidable experience, special competence, imposing tradition, nor overriding prestige. As a test of strength, it was significant that (1) the Red Cross could argue its case not only as an equal before the "court," but as the plaintiff, or injured party, and (2) it forced the larger aims of the Civil Defense program to be set aside in favor of the immediate issues which Red Cross deemed relevant.

Curiously, Civil Defense seemed to be the only party at the meeting to attach much importance to the sheer performance already displayed by the two groups. This casual attention to the social services which had actually been rendered to clients is a notable departure from traditional professional ethics. The Red Cross succeeded in excluding this performance as a relevant consideration in the question of future authority. The presence of the national disaster staff was a bond on future Red Cross qualifications.

Thus, the situation contained two notable features: (1) The struggle for authority pitted a traditional, experienced organization against a new, experimental rival; (2) the actual performance in rendering services was only a minor factor in deciding the issue.

The Decision. The resolution of the hearing was a complete Red Cross victory. The Red Cross officially received exclusive authority for all social services, and its jurisdiction was unequivocal. For whatever face-saving value it had, Civil Defense was presumably to handle emergency police functions and heavy rescue operations. As a face-saving gesture, it had dubious value because rescue operations were over and the police were beginning to routinize the emergency police functions.

The full authority of the Red Cross was implemented immediately. Other public agencies, including the Worcester Welfare Board, were specifically directed to cooperate with the Red Cross (implicitly to submit to its authority). The local press announced that the Red Cross had taken over all relief and registration activities, "effective at once." This was spelled out in greater detail by the national Red Cross official who explained that the agency had control over feeding, housing, clothing, and medical aid for all disaster victims. This was reinforced by public statements of various officials, including the Governor's spokesman who announced:

The Red Cross and no other agency can register disaster victims for relief. They may later be referred to other agencies, but in any case they must first register with the Red Cross.

After the Disaster Committee's decision, Red Cross and Civil Defense met the same afternoon to arrange details of the transfer of services. They clearly understood that Red Cross would handle medical aid, registration and inquiry, feeding, clothing, housing, and any other welfare activities that arose. The first aid station in the Auditorium was transferred across the street to the Red Cross headquarters.

The clothing center was allowed to remain in the Auditorium since there was no other convenient location for it. But it was operated by the Red Cross who reported that unsolicited donations of used clothing from all over the country eventually amounted to 200,000 pounds.²¹ In addition to the used clothing which was distributed, Red Cross ultimately gave out 3,500 pairs of new shoes plus some \$15,000 worth of new clothes.

The feeding of victims was taken over by the Red Cross, while Civil Defense was to feed the emergency and volunteer workers. Victims usually made their own private arrangements and the disaster workers were almost the only ones fed by public agencies. This was typical of the general situation after the first night in that staff and volunteer workers at almost any agency outnumbered the clients. The feeding arrangements were altered several times, and at one point the Red Cross operated 20 mobile and fixed canteens. Finally, after five days, the original arrangements were restored.

The Red Cross formally took over the operation of all social services about 36 hours after the tornado. The organization ultimately supervised almost 1,000 volunteer workers and helped almost 1,300 families in various ways.

Power Conflicts and Public Need. The conflict between Red Cross and Civil Defense definitely refutes any assumption of invariable community solidarity in crisis. Just as emergencies weld parts of a community together, the strains can also cleave other segments apart along fracture lines concealed beneath the normal harmonious surface.

But it is uncertain whether these conflicts erupt indiscriminately or whether they are affected by the severity of emergency or by the sequence of events. In Worcester, while the crisis was at its height and its full severity was not yet clear, the tensions between Red Cross and Civil Defense were not given completely free expression. The Red Cross refrained from "competitive" announcements the first night and, to paraphrase one Red Cross spokesman, the agency held back and deferred to Civil Defense. Although Red Cross was quite disturbed about its position and within four hours of the tornado made definite plans to defend its rights, the actual fight did not reach a decisive stage until after the rescue period had passed and the low dependence on public relief became quite clear. There was no heavy demand for relief, nobody spent the night in the streets. Although 9,000 people may have been affected, public agencies did not house 5,000, 500, or even 100 persons.

It is interesting to speculate on the possible course of the conflict if there had been an urgent, widespread need for public help. Would the Red Cross even have raised the authority issue? If it had, would the Disaster Committee have given it serious attention? Or accepted a legal argument in the face of pressing human needs? Or, indeed, allocated exclusive authority for social services? The discomfort and embarrassment of the Disaster Committee may have been a "luxury" permitted by the fairly limited call on the services in dispute. In realistic terms, the conflict had no significant effect on the actual welfare of the tornado victims.

On this basis, it might seem that the need for emergency help must be fairly limited before conflicts for authority are allowed to erupt or are tolerated if they should arise. In other words, the welfare of victims might take priority over the settlement of administrative rights.

But this neat conclusion is definitely refuted by data from other disasters, notably the Holland flood:

There was one basic conflict in the Dutch response to disaster.... There was a good deal of friction between the Dutch civilian authority and the Dutch military authority.... In this operation, reconnaissance /survey/ appeared to be especially weak.... Why the Dutch had not already carried out a similar reconnaissance and more clearly formulated the extent of the disaster and the rescue requirements is not known. We suspect...that the Dutch hoped to reconcile the conflict between their civilian and military people by getting a third party, General Eddy, to act as the unifying force.... The first twenty-four hours were the crucial ones, however, and the hours in which most lives were lost.... The delay in bringing rescue units to the scene appears to be a function of the nature of the reconnaissance that was carried out....

Here is an instance of a conflict between authorities which developed before the full extent of the disaster was known, it emerged in the face of compelling rescue needs, it resulted in an inhibition of necessary operations, and victims presumably suffered in consequence.

The relations, then, between needs of disaster victims and authority conflicts are complex and require further study.

Dominance and Autonomy. The conflict in Worcester underscores a fundamental weakness in the position of Civil Defense, even when it has adequate funds and considerable official support. Despite legal arrangements which may vary locally, Civil Defense has little or no effective binding authority over participating groups and ultimately depends on their voluntary cooperation. As will become evident later, most agencies do not dispute any legal authority which Civil Defense may hold, but simply tend to by-pass the agency during disaster operations. Comparatively few organizations willingly gave up their operating autonomy to Civil Defense whose reputation among professional groups was quite shaky. This situation may prevail until Civil Defense establishes its competence at a professional level.

This dilemma of Civil Defense may be illustrated by the remarks of one Red Cross supervisor who deplored the lack of liaison among agencies during disasters. She correctly claimed that independent agencies did not integrate their operations. A moment later, in explaining how Red Cross ideally operates, she indicated, "Red Cross tries to work through its contacts with its own disaster chairmen in the field rather than people in other agencies." Thus, she invoked one set of standards for other agencies (integration) and a second set for the Red Cross (independence). The desire for autonomy was not peculiar to the Red Cross. But before Civil Defense can hope to achieve a position of leadership and overall integration, it will have to solve the inclination to autonomy of independent operating agencies.

Fact and Fantasy. The final problem presented by the Worcester conflict is the extent to which it clarified the authority situation. To what degree did it result in greater awareness and agreement about the distribution of authority?

Apparently, there was very little re-definition of the situation by the two agencies. They emerged from the conflict with about the same conceptions that they had before the tornado, although Red Cross probably became much more sensitive to the ideas of Civil Defense and, to this extent, is probably the closer of the two to realistic perspectives.

The resolution of the conflict affected the agencies differently. The Red Cross' conception of its role was completely confirmed by the decision of the Disaster Committee. But Civil Defense interpreted the experience in another fashion. The situation was structured primarily as an "error" in which Civil Defense infringed on a non-military emergency. Consequently, the "right" conditions for its plan had not been met, and other agencies therefore could not be expected to play their "proper" subordinate roles. Thus, the formal emergency plan, the multi-organizational chart, and the chain of command with Civil Defense at the apex had not "really" been tested, but remained intact and inviolate. Although the agency had

decisively lost the only fight for authority in its young life, only several days later the Civil Defense director carefully explained that the (old) organizational chart hanging on the wall was a representation of the actual authority system (with Civil Defense at its head). There was no distinction between military emergencies and civil disasters, no reference to conditions under which the chart applied. It was simply offered as the structure of the emergency system. In effect, the lost authority dispute had become an experience in isolation.

This isolation of the formal defeat was reinforced by a gain in public stature and prestige for the agency's response to the disaster. The lost fight could be dismissed as a misunderstanding or as a localized incident. But the public kudos shifted the focus from the unpleasant parts of the experience to gratifying praise and a sense of a job well done. The recollection of the organization's disaster performance became a seductive delusion which brought Civil Defense no closer to future operating realities. In the future, the differences between the hard realities and the ideal situation pictured in the organizational chart on the wall could easily dissolve in the mists of past public laurels.

The inner glow from the "rose-colored glasses" approach may be bought only at a definite cost when other people or other agencies are involved. The effects of the discrepancy between ideal and real expectations are pointed out by a political scientist who has made a close study of the Civil Defense organization:

There is an observable tendency to confuse plans and facts. The "coordinating committees" and the civil defense staff may have...made elaborate organizational charts showing responsibility and relationships, but there has been very little done to transform the completed paper plan into reality. The paper plan is not an organization--it is a guide to action; and the organizational chart is not the organization in fact, but merely a graphic representation of its formal aspects.... When a civil defense official is sure that he can press a button and know that in a definite time he can count on certain civil defense resources being at certain places, ready to fill their civil defense function, the term "civil defense organization" has some meaning. Until that time, it is an illusion and a dangerous one, since those unfamiliar with the facts will assume that the chart represents reality, and will count upon the emergency action of that reality.

The relevance of this analysis is not peculiar to any single Civil Defense group or operation. Significantly, it generally warns against taking the organizational chart literally, and if applied to Worcester it might have been a warning against self-deception. The major implication of the Red Cross-Civil Defense dispute, then, is that conflict resolutions that result in no clarification and agreement about future roles simply preserve the basis of future conflict.

FOOTNOTES: Chapter V

1. More accurate figures on casualties and damage cannot be established because many victims did not come to the attention of public officials.
2. The perimeter contained one leak near the largest housing project, and many volunteers slipped into the area at this point. According to one police official, this leak was a fortunate oversight which made additional manpower available.
3. The problem of sight-seers has been grossly over-simplified. Authorities are inclined to be indiscriminate and to damn most of the people in the fringe areas (and many within the stricken zones) as sight-seers. There is abundant evidence that many people are in the area for other reasons. We have noted how the Worcester Civil Defense director and the Public Works Commissioner were both caught in the traffic. One news story suggested that some of Shrewsbury's "sight-seers" were simply Worcester residents trying to get home;

Traffic flowed smoothly until just past the Drive-in Theater in Shrewsbury. There everything was stalled.

Those who turned around and tried to reach Worcester by the Southwest Cutoff were more intimate viewers of the storm's destruction. (*Italics inserted.*)

Clearly, some distinction must be drawn between people's motives and actions in disaster areas. Some come in order to help, others in order to sight-see, and some are inadvertently caught. Among all three categories there are some who help, some who sight-see, some who try to get out, and some who wait for an opportunity to do one of these things. Consequently, there are many different types: People who come to help and cannot get in; people who come to sight-see and wind up working; etc. Most of the criticism, however, simply assumes that whoever is not working comes specifically to sight-see. The problem is obviously more complex. See Fritz and Mathewson, 1957.

4. Even these two phones were not freely available to the staff because newsmen and sundry VIP's often claimed the phones for their own use.
5. Six hours after the tornado, the manager of Western Union tried to phone Civil Defense headquarters. He telephoned continually for three hours without success. He finally reached the office by a public announcement over a Worcester radio station requesting the Civil Defense director to contact Western Union.
6. The Red Cross, for example, had switchboards and a battery of teletype machines installed on tornado night.
7. One interpretation of these "contradictory" policies would be that they were politically consistent. They might have been based on the notion that Civil Defense had sufficient personnel, indicating an adequate framework of organization, but the lack of equipment could be attributed to the lack

of funds, providing the rationale for larger appropriations. It is likely, however, that legal norms allowed certain actions and prevented others which made these policies inconsistent to the outsider.

8. This is simply the dynamic of bureaucratic structures noted a long time ago by: Max Weber, 1947 and repeated in recent works such as by Champion, 1975.

9. Immediately after the tornado, the Governor gave communities and operating agencies complete reassurance on the score of finances. Indeed, he even pledged that the State would pay all victims' hospital bills, but this exceeded his legal powers and could not be honored. The provision of disaster funds occupied most of the attention of the State and local governments for the first week.

10. The tendency to ascribe social conflict to communications failure and to the lack of common perspectives rather than to conflicting interests dominates much current thought in many tension spheres, such as industrial and international relations. For example, Northrop, 1946 attributes international tensions to competing nations' different assumptions which presumably remain unclarified because of communications failures. It is more plausible that these tensions mainly reflect conflicting interests which antagonists fully appreciate and which communications will not dispel. The problem is essentially not a lack of common understanding, for antagonists usually understand each other only too well. See, for example, Kriesberg, 1973.

11. Such an isolation might facilitate coordination and effective operations by minimizing possible conflict--provided that the de facto leadership is competent and the amateur official authority does not insist on dominating the field operation.

12. For a more recent general discussion of the relationship between local authorities and newsmen, see Paletz, Reichert and McIntyre, 1971.

13. This registration was not to be an application for long-term assistance under the Red Cross rehabilitation program.

14. This is significant for those who still believe that urban life is dissociated and lacking in solidary kinship and communal bonds. For a discussion of this point see E. L. Quarantelli, 1960, Drabek, 1969; Drabek and Stephen on, 1971.

15. After the tornado, even temporary separation of family members was a source of great anxiety to victims.

16. From the beginning of the present research, three days after the tornado, the Civil Defense file in dispute was available for public inspection at CD headquarters.

17. Within an hour after the tornado, the Worcester radio stations began to receive calls from residents of the stricken areas, their friends, and relatives. Typically, a person would request an announcement to be made that John Jones was safe and could be found at his aunt's house, or a request would be aired that anybody with information about the welfare or

whereabouts of Mary Smith should please phone her husband at a given number. These requests for the broadcast of personal messages were initiated spontaneously by the public and soon snow-balled. Although the broadcast of such personal messages was a technical violation of FCC regulations, the stations cooperated energetically. Every local station was flooded with these calls and some tried to keep a record of the activity, but soon had to give it up. After several days, any station could literally produce several bushel baskets full of hastily-scribbled notes on "personal messages"--registration, inquiry, and mutual aid. Despite the undoubtedly high level of "repeaters," the voluntary "registration" through commercial radio stations certainly equalled the bona fide voluntary registration through official agencies. In the first three or four days, the broadcasting time devoted to these personal messages exceeded the air time of disaster news coverage and official public announcements. Indeed, in assessing the role of radio stations in the disaster, the general managers of two stations independently mentioned the registration and inquiry service first and formulated this in similar terms. One stated, "First, we became a kind of missing-persons bureau," and the other indicated, "We furnished a person-locator service." Significantly, people in the community spontaneously turned to familiar institutions probably more frequently than to formal agencies set up to provide these specific services.

18. The tension between local and national Red Cross shows a special form of amateur-professional distinction which was common among many "auxiliary" groups (such as police and fire auxiliaries) but without the possible moderating effect of living in the same community. See Adams, 1970 and 1972.

19. The quotations refer to a form of symbolic participation which will be examined in later chapters.

20. That Civil Defense generally lacks prestige may well be true. The public apathy that allowed the agency to languish in Shrewsbury (cf. Chapter 3) is quite common. For indications of lack of interest in various communities see Dean, 1964; Ktsanes et al., 1955. As an abstract concept, however, Civil Defense is usually approved by community members. See Nehnevajsa, 1966.

21. Mounting clothing donations are almost an endemic response to disaster. Agencies are usually helpless to stem the local contributions for at least a week. Clearly, clothes may be more important in winter than in summer. But in Worcester, there was a far greater supply than demand. After three or four days the excellent processing of the clothes made the Worcester Auditorium resemble Macy's basement.

Chapter VI

FLINT - BEECHER

Flint is an industrial town of approximately 160,000 population at the time of the tornado, located about 60 miles northwest of Detroit. The home of some of the country's giant corporations, notably General Motors, Flint is a highly specialized one-industry town whose heavy production is supported by a group of smaller supplier plants. In this monolithic economy, a handful of major plants is controlled by one giant corporation, and the entire industry of the town is concentrated in only 100 manufacturing establishments. In terms of local power, this "company-town" aspect of Flint is counterbalanced by the large industrial unions. Thus, the city is dominated by two bureaucratic colossi--General Motors and the UAW.

The subordination of all other economic activity was reflected in the composition of the labor force. In 1940, almost two-thirds (64%) of the total labor force in the Flint metropolitan area consisted of industrial workers. There were also more skilled workers (including craftsmen and foremen) than all classes of non-manual people combined--18% vs. 17%.

Because of the heavy capitalization and specialization of Flint's industry, the general economic structure of the town had been almost unchanged since 1940. By the same token, Flint is a boom-or-bust town whose fortunes shift with the economic tides. These smiled upon Flint from 1940 to 1955, but it had not always been so. Although the population level had not fluctuated by more than 10,000 between 1930 and 1955, there was a fairly rapid turnover of people when times got hard. In the mid-'thirties, for example, scarcely one half of the city's residents had lived there longer than three years. Even though the recovery from the Depression had reduced the mobile part of the population, Flint remained a city with neither a deep sense of tradition nor a quickening tempo of growth and expansion.

The city as a whole bore the ineradicable stamp of the heavy industry upon which its prosperity and welfare rested. It had few of the surface amenities of Worcester, whether of academic or artistic activity, generous parks and recreation facilities, modern residential districts or fashionable shops, etc. There was only one hotel which Duncan Hines might deign to inspect for a rating. An assiduous search for picture postcards of Flint which did not depict an industrial scene yielded not one solitary postcard. This merely illustrates the dominant character of the town and the little superficial relief from its pervasive tone.

The industrial companies and the unions exercised great influence in the town when they chose to exercise their power. The unions had been criticized in some quarters for being too bread-and-butter oriented and for taking an insufficient interest in civic affairs. Management, on the other hand, had been more attentive in this respect and showed an appreciation of the sheer public relations benefit of civic

participation. The influence of industry and labor naturally extended into local politics where both groups had informal representation on the town council. Apparently, however, the major conflicts between business and labor were played out primarily in the shop and conference room rather than in the public arena of local politics.

The town administration did not seem to be especially distinctive, and no deep animosities, bitter rivalries, or strong alliances made themselves obvious during the field work. Civic officials generally described the mayor as a pleasant, but undistinguished figure. Relationships among city departments appeared to be easy-going and casual, without many deep involvements. One informal network linked the public police groups and the private factory police of the plant-protection departments. There were notably free channels of communication and association among these groups. Detailed study of the town government might modify these impressions.

Flint's resources which were most relevant to disaster needs included five private hospitals and one public hospital. This municipal hospital, of which the townspeople were particularly aware and proud, was a modern institution. Shortly before the tornado, its capacity had been increased to about 400 beds by a young, vigorous administration. The police and fire departments consisted of about 200 men each, and seemed adequately staffed and equipped. But the fire department did not have its own radios and had to depend upon the police for short-wave radio communication. A local Red Cross chapter functioned on a modest scale. There was a pro forma Civil Defense which was little more than a mere letterhead. Fewer than half of the positions on the organizational chart were even nominally filled. The operational head of Civil Defense handled his duties as a sideline to his full-time responsibilities as a fire marshal.

Perhaps the greatest bitterness in Flint's public life appeared in the relations between two non-city groups, the sheriff and state police. The former had headquarters in downtown Flint and the latter a post just outside the city limits (near the area stricken by the tornado). The sheriff had a small staff of barely two dozen men. The state police post was manned by no more, but they could quickly be augmented by outside reinforcements. Both agencies were on excellent terms with Flint authorities, but they had a long-standing dispute over which of them had jurisdiction in the counties adjoining Flint.

Beecher

The tornado struck outside Flint proper in Beecher, a settled part of the suburban fringe about two miles north of the Flint city limits and six miles from the downtown section. It contained a population of several thousand manual and some lower white-collar workers, most of whom owned their homes. Beecher is not to be confused with the typical middle-class suburban development which burgeoned after the war with the general exodus from the cities. Rather, it was a district of modest working-class homes. Most of them had four or five

rooms; about half were without basements. Flint's suburban fringe never had attracted the city's elite. For example, in 1940, of the total number of proprietors, managers, officials, professionals, and semi-professionals in the labor force, only a scant 8% made their homes outside the city proper. In 1940, about one half the dwellings in all the fringe areas were without running water and three-fourths of them had no indoor flushing toilets. Of course, the postwar building was substantially different and had the usual modern facilities. Beecher shared in this development, but it remained a working-class district of small home owners rather than an affluent middle-class residential suburb.

Beecher was not a city, town, or an incorporated place. It lay in two townships, one state water district, and a school district, the latter symbolized by a fine modern high school at the heart of the area. Thus, it was dependent on various separate administrative jurisdictions for those basic public services and facilities which a community normally provides its citizens. Without any autonomous legal status, Beecher had no distinctive authority structure through which responsible public officials could act for the community. By the same token, it had few of the appurtenances of government which rest on a municipal tax base, such as public hospitals, police, or public works department. Nor was the district rich in quasi-public formal organizations which might be helpful in disaster, such as the Salvation Army or the Red Cross. Beecher's principal resource was a volunteer fire department which belonged to a mutual-aid association of similar groups in neighboring townships. Otherwise, Beecher was almost completely dependent on outside help during the tornado, especially on Flint.

The tornado struck Beecher late in the evening, knocked out all electricity and left the area in rain and in darkness. Except for the disruption of utilities, the major property damage was to private homes. The principal large buildings in the area were the new high school at the heart of the disaster zone and a nearby factory nearing the end of construction. The school was severely damaged and the plant less seriously so. The construction work, however, fortuitously made some heavy equipment available near the tornado's destruction. More than 100 people died and at least 800 more were injured. Of the 600 homes affected, almost 60% were completely demolished and over 100 more were severely damaged. Close to 2,000 people, at least half the residents of the district, were left homeless.

The physical conditions of operation were probably worse in Beecher than in the three Massachusetts towns. The rain and darkness made it difficult to get oriented to the larger disaster scene. The ecology of the area also set important operating conditions. The entire tornado covered a 35-mile course. In the Beecher section, it followed a principal road for about four miles and described a perfectly straight path from west to east. On each side of the road, its destruction spread to a depth of 4-5 blocks in the built-up sections. All east-west streets were blocked by trees and debris. The street network was a fragmentary gridiron pattern because the built-up sections were

irregular and were surrounded by open or undeveloped land which had no streets. Only three north-south roads gave direct access from Flint to the disaster zone. One was at the western end of the destruction, another at the eastern end, and the third, the major Flint-Saginaw highway, almost bisected the district. Another secondary north-south road about one mile west of the area ran through fairly open country and could be used only to approach Beecher. In shape, the stricken area resembled a long loaf of French bread, and the three major roads were like skewers which pierced it at each end and somewhere near the middle. While traffic depended on the three roads, people could freely filter into the area on foot through the un-subdivided land. Even though traffic arteries were limited, it was difficult to establish a perimeter of road blocks for the control of entry to the stricken zones. Consequently, no control was imposed over access to the area until the day after the disaster.

Overall Field Authority

As a small unincorporated place, Beecher had no municipal services and was extremely dependent on outside help. Its sole disaster resource was the volunteer fire department whose station was at the heart of the stricken zone. A local state police post was near the Flint city limits on the main road to Saginaw. This post, one Flint fire station, and four mutual-aid firehouses exhausted the organized aid within three miles of the stricken area.¹ But all the resources of Flint itself were quickly available.

Beecher's lack of a legal identity and local officials sharpened the problems of jurisdiction and authority in the disaster. There was nobody clearly empowered to act for the local community and consolidate a leadership system or to whom outside leaders might refer (as the state police related to Holden officials). Nor did Beecher even have the conditions for a leadership-authority discrepancy (as in Worcester). There was a complete vacuum of local leadership and authority.

Beecher is of special interest because a number of outside groups were potentially capable of undertaking overall leadership. The Governor intervened during the rescue period to confer official authority on one group. But this formal designation of authority was insufficient to insure the decisive exercise of overall leadership. During the rescue and early emergency periods, Flint had the least aggressive leadership of any town studied. This seemed to reflect a complex inhibition on filling the leadership vacuum despite the Governor's mandate. Thus, Beecher may disclose forces which check the purposive integration of operations.

When the tornado broke, the news quickly reached the outside. The first word from the heart of the disaster zone was flashed by the Beecher volunteer fire department over the mutual-aid association's

short wave radio network. The fire units and a multitude of other people notified the Flint police and the state police post about a mile south of the stricken area.

On the ground, the familiar patterns of spontaneous mass response appeared. Survivors, volunteers, and arriving agency personnel all plunged into rescue work, and casualties were evacuated in any available conveyance. The general picture was one of great fluidity and confusion, dominated by complete darkness. People struggled in the dark to find and help casualties. Car headlights were turned on. There was severe congestion, and efforts were made to untangle traffic and to clear roads blocked by cars, trees, and debris. Ambulances generally worked along the main Flint highway in the center of the area and casualties were carried there from the residential side streets.

These activities were undertaken by all sorts of people. The mass assault was typically fragmented and unorganized, focused on a succession of immediate problems that came to hand. Communications in the field were highly limited and sharply confined to discrete work problems. There was no crystallizing organization and no division of labor based on special skills or special problems. Work proceeded with no attempt at supervision, integration, or control. No perimeter was set up, nor were highly strategic problems pinpointed for systematic attention. No survey was begun, nor was there any strategic orientation to the total situation.

Some communication took place between various headquarters and their men in the field, but this was sporadic and unsystematic. Reports on the field situation and the activities of agencies' own members reached headquarters in a fragmentary manner, often through people returning from the field. Liaison in the field itself was haphazard at best.

Members of official agencies tended to work in the field almost as private individuals. There was little effort to coordinate or supervise operations at any level. One notable exception, perhaps, was the volunteer fire departments whose internal operations were relatively integrated. But these small groups occupied no significant place in the leadership arena and nobody expected them to provide leadership for others. Unlike any other town studied, no group tried to furnish overall leadership. The larger agencies, including the police, plunged into narrow tasks of rescue and other work shoulder to shoulder with private volunteers and did not attempt to develop the leadership potential of their organizations.

Despite this confusion and lack of leadership, a substantial part of the rescue work was actually carried out in the first two hours or so. Various estimates place the number of injured removed in this time at 500-600 or between two-thirds and three-fourths of the total casualties. At the time, there was no basis for judging what proportion of the total casualties were evacuated in the first two hours. Nonetheless, it was carried out by mass assault, without comprehensive information, directed trouble-shooting teams, controlled distribution

of equipment, etc. A private contractor pointed out to a subsequent Civil Defense inquiry:

In spite of all that can be said, pro and con by outsiders, they must realize that the first and one half hours of this disaster was practically in the hands of the immediate neighbors and the problem of moving bodies and saving lives was in their hands. This is where training and life-saving equipment must be set up by an organization that has organized leadership.

During this early part of the rescue period, various agencies were coping with several problems. The first was the mobilization of their own personnel. The Flint police managed to muster about 40 men who were fed into the field as rapidly as they became available. They were supplemented by police auxiliaries. According to statements of the sheriff and other informants, his small staff played only a token role in the disaster. The local National Guard unit was holding a drill in the Flint Armory with almost 100 men when the state police notified them of the disaster. These men were immediately able to take the field. The Flint fire department sent auxiliary firemen and two rescue teams with first-aid equipment. The fire chief specifically withheld heavy fire-fighting equipment to avoid extra congestion until fire hazards warranted additional fire engines. Six volunteer fire departments of the mutual-aid association were among the very first agencies on the scene.

The local state police post was able to muster almost two dozen men. About an hour after the tornado, the magnitude of the disaster was deemed great enough to warrant complete emergency mobilization of the state police. As a result, all the posts in the state were stripped to two men and the rest were ordered to Flint. Two hundred fifty state police en route to another area which had been hit by a small tornado earlier in the day were intercepted and directed to Flint. But as late as an hour and a half after the tornado, its full seriousness and magnitude had not yet been grasped. One order to a post commander reflected the state police perspectives at this time: "Capt.....send as many men as possible to Flint area at once, several fatals." Although the disaster was seen as serious, its full import was not yet appreciated.

A second major problem was the mobilization of equipment, especially powerful lights and electric generators, ambulances, trucks, and heavy construction equipment such as cranes and bulldozers. Agencies recruited this equipment independently, sometimes by public radio appeal. Some heavy construction equipment was present in the disaster zone at the site of the new plant which was being completed. Much more, however, was mobilized by a "syndicate" of large private contractors. Equipment and supplies began to pour into the disaster zone in a steadily increasing stream, largely from private suppliers. The

industrial plants and other organizations which had critical resources simply sent these into the field without consultation or request. The supplies from private groups probably exceeded those from public agencies.

A third problem was the handling of inquiries and offers of help from the general public and from public and private organizations. These offers occasioned some major problems in headquarters. The two officers manning the local state police post, for example, were overwhelmed by people offering information or help at the post, and they found it virtually impossible to handle operational messages over the radio or telephone.

Personnel and facilities came from many outside sources, although the force of these reinforcements was felt mainly after the first two hours. Thereafter, the field was saturated. In his report to the Civil Defense inquiry, the state police commissioner commented on this aid:

The tremendous response of volunteer assistance from both organized and unorganized groups and immediately concentrated in the disaster area is evidence of what can be expected in the amount of assistance available when a disaster occurs.

Shortages of sheer manpower were not a problem in Flint, although specialized personnel may have been another matter.

The first part of the rescue period lasted two hours or so, and was distinguished by several features vis-a-vis leadership and authority: (1) relatively few police and public safety people were in the field, although heavy reinforcements were on their way from outside; (2) nobody had a comprehensive picture of the overall situation or knew the limits of the stricken areas; (3) the mass assault was not complemented by any attempt at strategic, overall leadership. The lack of leadership was underscored by the lack of survey information on the scope and problems of the disaster. Apparently, one of the volunteer fire departments working in the eastern end of the stricken area surveyed a part of that section about an hour after the tornado. But this limited information was not disseminated, either then or later, and was not incorporated into a comprehensive picture of the emergency by any of the potential leadership groups.

The second phase of the rescue period began about two hours after the tornado when the weight of outside help began to make itself felt. State police reinforcements from all sections of the state began to arrive in strength, and within six hours of the tornado, about 250 state policemen were on duty in Beecher.

The first major attempt to bring some order into the amorphous situation was marked by the arrival of the Governor with several officials and higher officers specially selected from the Lansing headquarters

of the state police. The party held a quick consultation with state police and National Guard officers in the field. Then the Governor officially put the state police in charge of the disaster, empowering them with complete authority to deal with the emergency. He placed in command a ranking state police captain he had brought from Lansing expressly for this purpose. The Governor also ordered the mobilization of additional National Guardsmen and another 100 were immediately called out. Some 300 militiamen were on duty four hours after the tornado, and within 24 hours about 625 had seen disaster service. There was no declaration of martial law, and the National Guard was explicitly subordinated to the authority of the state police. The Governor's intervention was an attempt to create a clear authority structure and thereby provide overall field leadership. This inaugurated the second phase of the rescue period.

The first move of the state police commander was the establishment of a field headquarters in the disaster zone. A small, free-standing store which survived the tornado was commandeered and equipped as a command post. A powerful mobile radio transmitter, complete with its own power generator, was sent from Lansing State Police headquarters, and this became the communications control center in the field. Arrangements were made for the immediate installation of telephones for operations and to service press and radio reporters. Also stationed at the headquarters were radio cars of the Flint police, the state police, sheriff and the National Guard, the latter linked by walkie-talkie units to its men in the field. A Red Cross HAM radio unit and a radio-equipped truck of the volunteer fire department network were also situated nearby. Other organizations were intermittently present, but this core communications network was at field headquarters for a whole week.

The field headquarters was put into operation about three hours after the tornado. The state police captain made the command post his base of operations. Also working in headquarters were officers of the National Guard, the Flint police, the sheriff, the Flint fire marshal who headed the city's Civil Defense, and others. The command post also afforded excellent communications channels from the field to the outside, including centers in Flint, Detroit, and Lansing where a triumvirate of the Governor, the state police commissioner, and the state Civil Defense director comprised a top-level board of directors.

Thus, the structure was established to integrate action within the field and between the field and the outside. The chaotic and amorphous early period of the rescue stage could give way to some rationalization of operations by an overall leadership. Indeed, the Governor's creation of a formal authority system and the establishment of the command post were manifest commitments to order.

The major problem is whether the delegation of authority and responsibility to the state police produced the overall leadership which was sought.

Various observers disagree about the overall leadership which was provided. One research team judged that significant leadership

emerged. But their analysis of the mode of operation casts grave doubts on this conclusion. When their observations relevant to leadership are drawn together, a picture emerges along the lines of our own findings. With reference to the state police, their analysis points out:

Once the orders to proceed to a given area were given, the responsibility for action rested upon the individual trooper or team of troopers. This explains the lack of coordination and the wide variety of trooper activities at the scene of the disaster.... As the rescue operations proceeded, more troopers than officers felt their needs were changing. The troopers began to feel that they needed more communications.... Due to the confusion of the police network, communications to individual troopers was poor.... While the majority of troopers felt that they were given adequate leadership, some felt that they were not given enough and others felt that they were given none. They /State Police/ were highly ethnocentric, more conscious of themselves and their activities than those of any other group.... The State Police worked intermittently with the people around them.... The troopers were much more aware of others in the field than were the officers.... Officers emphasized however than /in future crises/ they would act to bring about a better communications system than the one they had in operation.... The problems listed by officers in the organization were essentially related to command functions. They indicated that "organization" was a serious problem, as well as communication.... This organization did not represent a coordinated effort even though the potentialities for such an effort did exist. One important ingredient was lacking in this potential, namely, putting into effect a specific overall plan.... The result was a great deal of spontaneous activity more or less useful, but not representing the maximum effort for which both the membership and the organization as a whole were adequately trained (Form and Moscow, 1958: Chap. 9).

Clearly, such a fragmentary abstract cannot do full justice to all the findings. But it indicates that the command post did not bridge a gap between a comprehensive level and activities on the ground. A breach remained between strategic leaders and those working in the field. This inadequate contact between headquarters and ground inevitably set limits on the leaders' knowledge of the field situation and their ability to coordinate activities.

In consequence, we find that there was definitely less comprehensive leadership in Flint than in Holden, Shrewsbury, and even Worcester. While it is impossible to compare Flint's leadership with the other towns on an absolute scale, it is possible to specify the differences which appeared. Obviously, this is not a black or white matter, nor one which speciously precise measures will solve. But on the basis of our data, we can rate the overall leadership of the four towns in terms of "relatively more" (+) or "relatively less" (-) liaison and integration on several variables. This appears in Table 4.

Table 4

OVERALL LEADERS' RELATIVE INTEGRATION
OF DISASTER OPERATIONS

	Among <u>Zones</u>	Field - <u>Command</u>	Within <u>Command</u>	Command - <u>Outside</u>
Holden	+	+	+	+
Shrewsbury	+	+	+	-
Worcester	-	+	+	-
Flint-Beecher	-	-	-	+

This indicates that, in comparison with the other three towns, the Flint command post had considerable liaison with headquarters and centers outside the field, but appreciably less contact and integration inside the operating arena.

In general, authorities in the other towns seemed to show a greater awareness of strategic and organizational problems. At the moment, we are less concerned with their effective performance than with the leaders' orientation, or how they approached their problems. All the other towns (1) had a specific early survey which was then supplemented by a steady flow of information from the ground. (2) On the basis of this information, leaders worked within some kind of overall plan that they formulated. (3) The plan invariably contained several features: (a) the centralization and consolidation of information from the field; (b) the immediate establishment of perimeter to control access to stricken areas; (c) some regulation over the entry of bulky equipment to the field; (d) an attempt to distribute resources to the zones on the basis of need; (e) a fairly close watch for critical bottlenecks and the assignment of special troubleshooting teams to them; (f) the selection of problems on which some specialists and specialized equipment were to work; (g) a methodical search procedure, or minimally, a methodical check and supervision of the search, featuring close contact at the ground level, consolidation of the information, and sealing off of cleared streets and zones; and (h) enough liaison among the operating leaders in the field to keep the situation in a fairly accurate perspective. In addition, Holden and Shrewsbury had a highly systematic accounting for all residents, and assistance to the hospitals was undertaken in consultation with medical authorities rather than independently. In general, leaders had relatively close contact with field activities and with each other and worked out some division of responsibilities. As a result, they kept a running check on the mass assault, had a reasonably viable grasp of operating problems and needs throughout the rescue period, and, significantly, men at all levels had a fairly clear idea of the overall operating structure and were able to describe how it worked.

This illustrates how the disaster was approached by the leadership in the other three towns. If these procedures are used as criteria, the leadership in Flint showed significantly less strategic

orientation to organizational problems even after the formal authority system was established. This does not mean that Flint authorities did not play a useful role, but simply that they provided perceptibly less overall leadership, supervision, and coordination than appeared in the other three towns. The data are consistently patterned along these lines.

There was widespread complaint among our informants about the lack of general leadership and direction. This could not be attributed to ignorance of the authority system among the major operating groups, especially the public safety agencies. The state police were put in charge in consultation with the National Guard. The Flint and Detroit police, the sheriff, the Flint fire department, Red Cross, Civil Defense, and others were specifically informed of the arrangement. Furthermore, the formal leaders had the symbols of authority to support their decisions and action. As one observer stated:

Armbands and things like that are useless. You have to have a uniform. Only uniformed people get the respect of volunteer workers -- especially police officers.

Notwithstanding the visible symbols and the apparent clarity of the authority system to the major groups, there was some confusion among smaller groups about who was in charge. A fire chief in the county mutual-aid association stated:

Nobody knew who was in charge and running things. There was no clear authority. What you need is someone to be put in charge so everybody knows and they all take orders from him. Outside people who came in, like the Detroit police, had no direction and no one told them what to do. So they just wandered around the area and spectated. I didn't know -- and I still don't know if that was a Civilian Defense job /i.e., Civil Defense responsibility/ out there or not.

Any ambiguity may have reflected the lack of overall leadership rather than the failure to publicize the authority system. Indeed, there appears to have been some uncertainty in the minds of the state police themselves:

When the question was raised as to who the leaders in the operation were, the officers of the State Police, with few exceptions, indicated that the State Police were in charge. This is in sharp contrast to the troopers, none of whom indicate any organization as having been in charge of the disaster rescue operations.

Since rescue activities continued after the establishment of the command post, the leadership structure was apparently not clarified through actual operations and a functioning division of labor. Any ambiguity was a token of how the system worked or failed to work. The confusion did not divide big from little organizations, but people on the ground from those in headquarters. Although authority was not

so formally structured in the other three towns, there was much less uncertainty at the ground level about who exercised overall leadership.

The lack of a strategic orientation was implicitly confirmed in several quarters. For example, the officers of the state police made a number of recommendations about future disaster procedures on the basis of their experience in Flint. These included: A clearer definition of authority; quick, comprehensive survey; organization of manpower into teams before they enter the field; control of operations by definite work assignment; and use of walkie-talkies to facilitate communications. Further, in a response to a Civil Defense inquiry on disaster operations, the state police commissioner acknowledged the overall responsibility of his organization in Beecher, and to the question, "Have you any suggestions for improving the coordination of disaster operations?", he replied:

The experience of the Flint disaster made it plainly evident that any planning for possible future occurrences of similar nature must by all means provide for the immediate establishment of a central office or authority.

All agencies and volunteers responding to give their aid could immediately report to this office, which would make a record of the groups, assign work and other duties, and in general, exercise authority over the entire rescue operation. Without this, there is confusion, overlapping, lost motion and instances where some groups are idle through failure to give them something to do. It even happens that some types of operations are started prematurely.

A central office would also be in the best position to determine what additional outside help would be needed, how much of it, and where and how to get it and would likewise be able to offend / fend off? i.e., prevent / an influx of help that might not be needed and which would only add to congestion in the disaster area.

⑦ The commissioner's statement is significant precisely because the machinery to achieve what he suggests was established two hours after the tornado. His proposals describe how the disaster organization was hopefully intended to operate, and implicitly indicate that the leadership structure did not function in this way.

In the field, the outlines of the early mass assault seemed to persist with little modification and with only limited links between the ground and the command post. Direction on the ground was as often the product of personal initiative of private volunteers as of agency personnel, although when more police reached the field, many became "foremen" of instable volunteer groups.

Even the stable agency teams, such as the Flint fire department rescue team, worked without assignment and their activity was indistinguishable from that of the volunteers. This group was simply a

cohesive body within the mass assault. The leader described their operation during the rescue stage in the following terms:

We had our own group--auxiliaries [firemen]--and some guys from the rescue team. And we would be working our way down this block from one house to the next. But there was some other gang ahead of us and another following right behind, maybe thirty feet away, looking through the place that we just finished. We would shove around a pile of timbers and junk to search through underneath and when we'd finish, the team coming afterwards would push it back to check underneath where we had dumped it.

Q.: Was it the same pile of junk that the team ahead of you shoved around?

Yeh, I guess we were doing the same thing ourselves following the gang ahead of us.

But that's the way it went all night long. Hell, I didn't know what was going on across the street. It was probably the same way there too. Maybe nobody at all was there. I don't know what was happening in other places. But from what I heard, I guess it was pretty much the same all over.

Significantly, however, nobody checked on his team's work progress nor did he report the results of their search to anybody. Nobody kept track of the operation. This team simply worked all night long on rescue and search, through three presumably directed searches before daylight. When asked about this, the respondent was puzzled and could not reconcile the idea of three directed searches with the continuous, night-long operation of his team which had no contact with anybody in a supervisory position. This description of the check on field work contrasts markedly with the pattern in Shrewsbury and Holden where detailed maps were used, each building was checked off, and each street and zone closed when it was declared clear. This was based on a close check on ground work and a constant flow of information to a central point. The important operational control lay less with the map than with the flow of information.

The orientation of leaders was reflected in other ways than the lack of supervision. There tended to be comparatively little differentiation of activity throughout the rescue period. One observer asserted:

In fact, everyone out there the first night was doing the same thing--traffic duty and rescue work. This started right from the beginning and went on the whole night.

This is of major importance for various specialists (such as the fire department rescue team) who were not assigned to selected trouble spots where their training could be exploited.

Further, the loose control was evident in an uneven distribution of resources in the field, with a plethora of help in some places and a dearth elsewhere. No perimeter was set up to control access to the field, so there was an inefficient concentration of manpower in numerous places. Frequently this arose from the duplication of function by different agencies. For example, the Flint police and the National Guard often sent men to direct traffic at the same intersections while other traffic trouble-points were unmanned. In one extreme instance, the following situation arose:

They must have had two or three dozen cops from three different outfits down handling traffic at this intersection on Saginaw Road. They were standing around chewing the fat and watching a kid directing the traffic. He was a Boy Scout, maybe eleven years old / or so. Did a good job, too, and all by himself.

This illustrates the uncoordinated allocation of personnel which sometimes saturated certain points at the expense of vacuums elsewhere.

There was little trouble in mobilizing equipment, but there was almost no control over its delivery and entry to the field. In effect, there was a wave supply system which resulted in considerable congestion, both in the field and in the fringe area on the main road from Flint. The congestion was of two kinds, one of the vehicles bringing certain items, and the second of bulky equipment. The first developed largely from independent public radio appeals by different agencies or officials. For example, lights were desperately needed in the field. Generators and floodlighting equipment were mobilized from Flint, Detroit, Lansing, and elsewhere. The Flint mayor also had an appeal made for flashlights to be brought to the stricken area or to a collection point nearby (rather than to a depot remote from the field or the streets serving it). Some 500 flashlights were privately brought to the stricken area in almost as many automobiles which aggravated the difficult traffic situation. Other items were delivered in similar fashion.

Heavy construction equipment also intensified operating problems. Bulldozers, tractors, cranes, lo-boys, clambuckets, trucks, and other bulky equipment seemed to mushroom of their own accord. Most of it was supplied by large private contractors or other private sources. The ponderous equipment clogged the roads and the area. Much of it simply got in the way and became a problem which nobody quite knew how to handle. But the flow of this equipment was not stopped. Traffic controllers at major intersections were not instructed to divert the heavy equipment and had no reason to restrict its entry, so it continued to accumulate in the field. The use of this equipment will be noted presently.

Thus, although there was good contact between the command post and outside which greatly assisted the mobilization of resources, the flow of these resources was not regulated in accordance with field needs, and this created numerous problems. This contrasted sharply with the control exercised in Holden and Shrewsbury.

The basically independent functioning of separate agencies was indicated by the process of communications. In practice, there was limited liaison among organizations even in the field, unsystematic communications between the field and various agency headquarters, irregular contact between the ground and the command post, little communication between the command post as the overall headquarters and separate agency headquarters, and comparatively little consolidation of information within the command post proper. There was no general radio coverage of the field by one organization (as the state police covered Holden); the major participating agencies were distributed throughout the field. Each group's separate network which linked its headquarters and personnel included a radio unit at the command post. For a comprehensive picture of disaster operations to be built up, it was necessary for the leadership to tie together the communications of the separate organizations, or to integrate the output of the different radio channels assembled at the command post. This consolidation of information was much more haphazard than in the other towns, especially Holden and Shrewsbury. It was complicated by some physical and technical inconveniences, such as the number of groups involved and the fact that some radio links were inside the command post and others outside.

A deeper difficulty, however, lay in the primary orientation of the participating groups which was to their own organizations rather than to the overall disaster system.² As a result, communications first followed literature by providing writers with new electric typewriters or to assure objective perception by correcting everybody's vision to 20-20. These are necessary but not sufficient conditions that can help only in extreme cases. Now, clearly, one cannot make a telephone call without a phone or expect a sparrow to know the business of a homing pigeon. But, equipment can only make communications possible; it does not determine how it will be used. For these determinates, we must examine the bonds in a social system and ask who becomes relevant to whom under what conditions. These orientations often overcome technical limitations and keep communications flowing.

For example, a police car reached Beecher from Pontiac, about 35 miles away. The men had to find out and inform a Pontiac hospital whether a particular medical instrument should be sent to Flint. The radio transmitter of the Pontiac police car was too weak to reach its headquarters directly. Therefore, the message was sent to the Pontiac hospital over the following circuit: Pontiac police (verbal) to volunteer fire truck (radio) to the mutual-aid association "control center" (phone) to Flint police headquarters (phone) to Pontiac police (phone) to Pontiac hospital (phone). Instead of a two-step radio-phone link from the police car to its Pontiac headquarters to the hospital, there was a six-link circuit which took three minutes instead of one. But the message was passed with little fuss, and the technical inconvenience was no significant obstacle.

Other agencies worked the same way. For example, the County Road Commission and others too. They'd send in one man and he'd sort of keep an eye on things and keep in touch with his own department. Each department just used their own judgment. There was no chain of command to tie things together.

Thus, information tended to remain within organizations rather than being sent to the field center. On this basis, for example, survey information collected in part of the field by a volunteer fire department was not purposively fed into field headquarters.

Furthermore, information which did reach people at the command post was not as effectively consolidated and exploited as it might have been. Thus, considerably more information flowed between Flint police headquarters and its men in the field than was passed from the patrol car outside the command post into the building. Similarly, the National Guard officer in disaster headquarters was in touch with his men in the field, but not with others in the same area, groups who may separately have been communicating with someone else in the command post; the separate streams of communication were not well knit together. This restricted the kind and amount of direction which disaster headquarters could provide.

The manner in which the command post itself functioned delineates a picture of strategic leadership which contrasts with that of the other town. Apparently the command post operated largely in its own mass assault, improvising decisions on a series of specific details as they arose. For example, somebody might bring a truck to headquarters and ask the first person he saw what to do with it. The driver might have asked the state police captain or the Civil Defense fire marshal or the National Guard commander or anybody else--they were equally busy and equally accessible or inaccessible. The volunteer would not be referred to a motor pool or to a ground supervisor but would simply be given some direction by the particular person he stumbled upon.

One high official who worked in the command post from the time it was set up until it was closed gave a vivid account of its mode of operation. He reported:

Nobody knew what in hell was going on and nobody had any idea about what to do or how to go about it. That's the fact of the matter. Something would happen or be done, like setting up the morgue, and you found out about it accidentally three hours later. We were all there behind this counter and phones would be ringing like crazy and people coming in asking questions and you gave them an answer. Half the time you didn't know what you were talking about, but you told him something. We were in the dark just working off the cuff, so we just made the best guess we could. But you just never knew what you were dealing with. And we didn't know what was going on.

After the first night, things quieted down a bit. But in a funny way, they didn't really change too much at all. You still didn't get a big picture of what was happening. Things were still fuzzy out there-- you ever stopped to think about

it. But, you know, that's the thing. You never did do much thinking about it until later on. Afterwards when I looked back on it, it gradually struck me that all I was ever doing was handling real little details. Oh, some of them were pretty important at the moment, especially the first night. But they were still little things all by themselves. Later, when I looked back, I could begin to piece together little bits of the situation out there and fit some of the details into it. But a lot of them I couldn't--and still can't. All I saw then was a bunch of guys across the counter from me, one after the other. But I didn't know what the guy next to me was doing. Actually, all he was doing was the same thing I was.

It was pretty much the same way after the first night, too, only much slower. It's funny that it didn't occur to us at the time--about not seeing the big picture, I mean. Maybe that's why anytime somebody got an idea, it was OK. For instance, when I figured we might set up the screening station and first aid at the fire house. Everybody thought that was swell. Every once in a while somebody came up with an idea like that and nobody ever questioned any of them. Anything was OK, anybody who had a positive idea.

In effect, the headquarters housed many people working in a hectic atmosphere, but largely on an independent basis. The integration which took place fell short of making the command post a vital nerve center, an intelligence center, or a strategic control center.

This relatively limited overall leadership had its counterpart in the independent functioning of different organizations. As an extreme case of independent participation, the role of the Detroit police warrants special attention. The Detroit organization was a "big time" force, large, well trained, and equipped. Some years earlier, its chief had been the commanding officer of the state police (and apparently regarded the Detroit position as a promotion). According to him, about an hour after the tornado:

This Department contacted the Flint police radio station and offered assistance in the way of manpower and equipment. We were advised at that time that the situation could be handled by Flint, as apparently the magnitude of the disaster had not yet been realized.

In the next hour and a half, a series of consultations was held by Lansing officials of the state police and Civil Defense, the Flint police, the state police in the stricken area, and the Detroit police. In addition, the Detroit chief contacted the Genessee County Sheriff and the Sheriff in the adjoining county (which the tornado had crossed after leaving Beecher). About two hours after the disaster, the Flint police began to realize that the situation was more serious than

they originally thought. When the Detroit police chief offered help a second time, a Flint police sergeant urged his chief to accept, pleading, "Let's face it, chief, this thing is bigger than us. It's too big for us to handle. We need help bad." The Flint police then accepted the offer and also asked for help from the state Civil Defense.

The upshot of these conferences was that about two and a half hours after the tornado, there was general agreement that the Detroit police should come in. It was decided that they would send manpower and other specialized assistance, including radio equipment and technicians, other specialists, clerical help for a centralized emergency morgue, and equipment and staff for an emergency hospital to be opened in downtown Flint.

After this decision was reached, the Detroit chief, about three hours after the tornado, dispatched two advance units of 30 men each. One was sent directly to Beecher and arrived about five hours after the disaster. The second was sent into the county adjoining Genesee which had been hit after Beecher. Arriving there almost six hours after the tornado, this group was the very first outside help of any kind to appear in this eastern county. When they were told that their help was not necessary, this unit continued on to Beecher. Both advance groups reported to the state police commander at the command post. A few men were assigned to traffic control and the rest helped in the last stages of the rescue and search and in policing the area.

The Detroit chief personally arrived in the field about five hours after the tornado and took charge of the Detroit personnel, all units after the first two reporting directly to him. In the field, the Detroit police operated independently, and with a vague general assignment. Much of the rescue work had already taken place and final searches were under way when they arrived. They did not take over a definite section of the field, but were irregularly distributed throughout the area. A few of the men were on traffic control, but most of them simply helped to maintain general security. Their duties were open. During the night, they circulated in little groups of their own which apparently had little contact with anybody else--either their own superiors, other groups, or the command post. Their specific operations were fairly negligible, although their sheer presence may have had "control value." Informants described their activities in the following terms: "They kept to themselves," or "It was a lot of official touring," or "So they just wandered around the area and spectated."

The Detroit men seemed to behave and be viewed as outsiders who occupied a position external to the formal system. They reached the field after the peak of the critical rescue and evacuation work, and their contribution in the life-and-death phase was less than that of other major groups. Because they were a prominent law-enforcement agency, their almost aimless participation may have contrasted not only with that of other groups, but also with expectations about the performance of a major metropolitan police force.

Their isolation in the field impressed some informants as irresponsible and aloof, and occasioned considerable local criticism and resentment. This was fanned into hostility when two Detroit policemen

were arrested (and subsequently convicted) for looting. Word of this scandal spread quickly and disgraced the force. While the state police, National Guard, and Flint police all had departments or local units with some status in Flint, the Detroit police had no local ties with Flint which might take the edge off the stigma. The local sense of outrage at the incident intensified the group's position as outsiders.

This position, however, had already begun to crystallize even before the looting took place. It was epitomized by the relations between the Detroit police chief and the state police commander. Fundamentally, the Detroit chief did not subordinate himself to the state police captain. The resources which the chief supplied and his entry to the field had resulted from conferences between him and superiors of the field commander. Although the chief acknowledged the official disaster system when he ordered his two advance units to report to the command post, he virtually ignored it when he personally reached the field. He functioned independently. There was almost no liaison between the chief and the captain, and their occasional communication was irregular. Informants indicated that the two men avoided each other, although the avoidance was punctuated by infrequent, almost token contact. It is possible that their relations were strained by status ambiguities or embarrassments. Although the captain was in charge in the field, the Detroit chief had formerly been the commanding officer of the state police and a superior of the captain.

Early on the morning after the tornado, 60 Detroit police arrived to relieve their colleagues in the field. Thereafter, the contact between the Detroit police and the field authority was confined to the scheduling of subsequent shifts of patrolmen for disaster duty. Ultimately, over 200 Detroit patrolmen, officers, and technicians saw disaster service. Clearly, aside from work of the technicians, their participation on tornado night was independent, self-contained, unsupervised, and not integrated with the activity of other groups.

Perhaps the most strategic leadership failure and the most conspicuous single omission was the lack of a comprehensive field survey in Beecher. Because everybody in the disaster zone was working with limited perspectives of the overall situation, there was little information on which to base an operational plan. The problem here is not simply the sheer lack of information itself, but how leaders acted with reference to their ignorance.

The lack of a survey was written off by some informants as a function of darkness. This, of course, only specifies the context of the problem, but explains nothing about the leaders' orientation to it. Indeed, the objective operating conditions created severe pressures to clarify the work situation. Informants declared: "We were completely in the dark out there." "You couldn't see your hand in front of your face." "It was black and we were in the dark about what in hell was going on." "Contractors must have lighting equipment at their disposal--as we had units working where only God and the victims knew [they] existed." Although there was no general picture of the total disaster, but a pressing need for such information, none of the major operating groups undertook a comprehensive survey at any time, either before or after the command post was established.

The survey situation was as follows: The very first report on tornado damage (although it was not realized at the time) came to the local state police post. It concerned some trees and two overturned cars which were blocking the secondary road about a mile west of the Beecher section. This was accurate, but deceptive news, since it seemed just as routine and localized as an accident report. The sergeant in command of the local post immediately took a detail of men to the scene of the overturned cars on Linden Road. This was the first police response to the disaster.

Quite innocently, this diverted the state police from the heart of the devastation to a minor scene on the western periphery. The post learned soon enough that there was major damage somewhere east of Linden Road and so notified the detail of men who had gone out. But the impassable roads prevented a quick return of the men who had started out, and the sergeant in charge reported that they spent a substantial part of the next two hours trying to hack their way eastward along the blocked highway.

Thus, within the first half hour, the state police acted on a misleading event. They had to abandon their first premise about the situation and were faced with the problem of relocating the heart of the destruction. Although there was obviously devastation to the east of Linden Road, nobody knew either the center or the limits of the stricken area. (In fact, nobody really knew whether any significant damage had preceded the impact on Linden Road.) Thus, when the original definition of the situation proved false, the state police had to revise their orientation. How did they do this?

Just to the north of the main intersection (which ultimately proved to be at the center of the devastation) was a drive-in theater. The theater had been hit and some patrons injured, although the casualties and damage were not as severe as in the residential streets on the Flint side of the intersection. Early and profuse reports poured into Flint police headquarters and to the state police post that the theater had been struck. This caused great concern because the theater was the only place in the vicinity where there had been any concentration of people. Reports of the damage had also probably been magnified by rumor.

When it was clear that the Linden Road incident itself was minor, the drive-in theater became the focus of the effort to re-define the larger disaster. News about the theater was quickly disseminated among the police groups. The theater soon crystallized to the police as the heart of the stricken area. Within half an hour after the tornado, they concentrated on this as the major problem, and they proceeded on this assumption for at least another hour. This was only possible, of course, in the absence of tangible information to the contrary or positive knowledge about the overall situation. The theater was the node of their reorganized perceptions.

There was clear evidence that the police groups still had this picture longer than an hour and a half after the tornado. (1) At that time, the state police categorically informed the chairman of the Red Cross that the theater was the center of the disaster. (2) The

Flint police were still dispatching ambulances and scout cars to the theater over a circuitous route which went around Beecher and approached the drive-in from the north.

Significantly, however, this re-definition of the situation: (1) was not accompanied by a reorganization of work or a redirection of energy on a general scale; (2) was not subjected to any determined reality-testing, as might have been expected in view of the misleading Linden Road incident. The police groups were still under-manned in the field and had their hands full with rescue and traffic to the south of the main intersection. Working largely on an uncoordinated basis in the mass assault, they were not shifted to the drive-in.

Further, in the darkness, the road to the theater seemed blocked. The police simply assumed that there was no ready access to the drive-in, and not many men worked to clear this road. A few started from time to time, but none of them first checked the full extent of the blockage. The few attempts to open the road completely were all quite small mass assaults, and none of the men reached the theater before other problems diverted them elsewhere. Perspectives remained unchanged.

Actually, this road was not completely blocked at any time. A newspaper reporter on the scene about 15 minutes after the tornado saw cars driven south from the theater over this road while it was presumably blocked. Furthermore, the very first outside group of any kind to enter the stricken zone was the Mt. Morris volunteer fire department, located about three miles north of the main intersection. Their fire truck drove over this road, passed the drive-in theater, and managed to reach the main intersection within minutes of the tornado. The fire truck did get through, despite the obstructions. The damage at the drive-in did not cause the Mt. Morris firemen to stop and go to work there.

At this time, the Mt. Morris firemen and the men of the local state police post were virtually rubbing elbows in the field. The state police knew the firemen and the location of their firehouse. Had the police reflected, they would have realized that the most direct approach from the firehouse would have been over the road which they assumed to be blocked. The firemen were obviously in a position to dispel the misconceptions of the state police about the blocked road and about the seriousness of the situation at the drive-in theater. Unquestionably, the Mt. Morris firemen would have corrected the state police if they realized what the police were thinking. But they did not. Nor did it occur to any of the state police to ask the Mt. Morris group how they had come into the area. Thus, there was no purposive reality-checking by the state police, either through their own efforts or by recognizing possible sources of relevant information available to them.

Finally, almost two hours after the tornado, enough police and ambulance drivers had reached the drive-in theater over circuitous routes to correct the authorities' second major misconception about the disaster. It was now evident that the theater was another secondary locale and not at the heart of the devastation. Here again the police were left working in an unstructured scene of chaos, and they had no way to fit this locale into a blank map of the entire disaster.

Significantly, however, when the state police did realize that the theater was another diversion, they did not inform the Red Cross of this fact. The state police officer had inadvertently been responsible for passing misleading information to the Red Cross chairman in the field, but it did not occur to him to keep the chairman abreast of past errors revealed by new developments.

That the false frames of reference did have operating consequences is clear. Various police were diverting significant resources from centers of need to peripheral spots. The Red Cross chairman based his relief program on the picture which the state police officer had given him in the field, and he sent a mobile HAM radio operator to reach the theater and set up a field radio station for the Red Cross. These were, perhaps, not crippling diversions in Beecher. But there is a hazardous temptation to interpret these false orientations in the light of their actual consequences rather than by other consequences that were certainly as possible and plausible at the time. It is easy to visualize other conditions where the false impressions might have compounded the disaster.

The data on the drive-in theater underscore the significance which different groups have for one another. The state police were concerned primarily with operations in the field: Rescue and search, evacuation, traffic control, road clearance, property protection, imposing order. These were seen as distinctively "police" functions for which the Red Cross and the volunteer fire departments shared neither expertise nor responsibility. Therefore, the state police, these non-police organizations were simply not particularly relevant or significant operating groups. As a result, the state police did not perceive the Mt. Morris firemen as a possible source of valuable information (to check their own assumptions), nor the Red Cross as a major operating agency for whom field information was especially relevant. Neither group was conspicuous in the perspectives of the police and was not identified as a communications "partner" with whom information might be shared.³

But what was done about a comprehensive field survey after the establishment of the official authority system and the command post? There is no indication in our data that the responsible overall authorities initiated any purposive survey work at any time. The mass assault continued, and information which presented itself was used, but there was no attempt to do a straight survey. This contains a striking parallel to the orientation of the Worcester Civil Defense. The lack of knowledge was not felt as a problem so long as there were outlets for action. Action was taken on discrete problems that were not related to a total situation defined by objective information.

The present research uncovered only three instances of any purposive survey by anybody. The first case involved one of the volunteer fire departments which reputedly surveyed a limited portion of the field in which they were working. This information, however, was not assimilated into the leadership system, perhaps because the survey was conducted before the command post was established. We have no details of the survey itself.

The second case involved the Red Cross. The chapter chairman required an estimate of the damage and casualties in order to plan for the volume of relief needs which might be expected. He visited the field himself, but could not get or make an estimate because nobody knew how far the damage extended. Other sources of information were equally unsatisfactory. The chairman complained:

Figures on deaths, injuries, the number of homeless and so forth were coming in from everywhere, from the Sheriff, the police, the hospitals, and even another town. All of these were overlapping and unreliable. You couldn't get a really accurate estimate of what relief needs might be.

On his return to the chapter headquarters, he sent a mobile HAM radio operator into the field to relay any information on the number of homes and people affected. But information from the field proved unstable and shifted during the night. The chairman claimed:

Anytime anybody went out, he came to what he considered to be the end of the storm area--and later we heard that it was not.

In frustration, the chairman finally had the HAM radio operator begin a personal survey of the disaster area on foot and report his results periodically. The chairman regarded this as an unsatisfactory expedient, but he saw no alternative. He fitted this information with that coming in from other sources and from Red Cross field workers who returned to headquarters. He slowly built up some idea about the scope of the disaster, mainly from people who had been in previously unreported sections, but he never felt confident in his working information.

The third instance of survey concerned the areas to the west and to the east of Beecher. Nobody had gone into these districts and no reports had come out of them. The implications were put succinctly by a Flint police officer:

What is necessary is a central command post and one other headquarters. As it was, everybody was working like mad, but there was just no damn organization. Nobody did anything about the area east of Dort Highway, and if they needed help /there/, it would have been just too bad.

About two and a half hours after the tornado, somebody decided to investigate. A Flint police sergeant approaching the stricken zone along Dort Highway saw that damage and debris continued east beyond Beecher. Notifying Flint police headquarters of his intention, he worked his way eastward along a clogged road, but broke off after 300 yards and returned.

Two hours later, he decided to pursue the matter further. Taking several men, he spent two hours working eastward, across the Flint River and into the adjoining county. The tornado, he learned, had continued with little interruption on an easterly course and caused considerable property damage and some personal injury, but fortunately there were not many severe casualties.

He worked his way well into this section of the devastation about eight hours after the tornado, and survivors there told him that no outside help of any kind had reached them until two hours earlier.⁴ In other words, if there had been a severe casualty toll, the injured might have waited almost six hours before any outside help arrived.

When the sergeant reached the office of a local law enforcement official shortly afterwards, he reported:

I found the son of a bitch sitting there with his feet up on the desk. I asked him what the hell he was sitting there for instead of helping some of the people who got hit. And the bastard says the tornado didn't do anything in his county!

Apparently, this official had not conducted a survey either, and the angry sergeant informed him in considerable detail the places where help was needed.

That the actual needs were not great in the eastern areas was strictly adventitious. But the authorities in the field did not know this, nor the situation in the western sections of the tornado's course. If the limits of their responsibility were fixed by the course of the tornado rather than by administrative boundaries, these areas had a legitimate claim on their attention and help. But, according to the sergeant in charge of the local state police post, there was too much dependence upon too few random field reports for a picture of the disaster. He declared, "Our biggest single mistake was that we should have had a team in to do a survey."

The significance of the survey problem is that the official delegation of responsibility and formal authority does not necessarily assure the effective exercise of leadership.

To this point, we have seen how the amorphous early stage of the disaster was followed by the establishment of an official authority system as a means of assuring leadership and integration. This formal disaster system, however, proved rather abortive, and the mass assault and independent operation of the early phase persisted. There was significantly less strategic leadership in Flint than in the other three towns.

The general inhibition on comprehensive leadership, however, does not mean that there was no specialization or differentiation of roles. The greatest specialization pertained to the establishment of a temporary morgue, the collection of personal property, and the development of a pass system. The least effective use of specialists marked activities with which police were unfamiliar. Further, certain informal operating blocs emerged which loosely corresponded to a division of power in the system. We will review these problems briefly.

The general discussion which brought the Detroit police into Flint covered plans for an emergency morgue in the National Guard Armory. The militia, the state police, and the Flint police all contributed personnel, and the Detroit police provided clerical help and various specialists from the homicide bureau, including photographers and

identification men. The problems to be handled were only too clear, and, however unpleasant, work decisions could be made on objective grounds. From all reports, the morgue was handled efficiently and smoothly, and the groups worked together with no difficulty.⁵

Aside from the morgue, state police and National Guard details were assigned to the collection of personal property which the storm had scattered. This reflects the deep and abiding concern in all the towns studied for the safeguard of property. Teams of men gathered personal items together in the unfinished factory at one end of the stricken zone and identified them when it was possible. This was a problem particularly with household appliances, furnishings and other standardized goods. As one news story indicated two days after the disaster:

How things like a bathtub or sink can be later identified is still a problem that must be solved.

Most items are listed as "owner unknown."

But they were assembled where they could be claimed.

The concern about looting may have been well founded in Flint, despite public reassurances that reports of looting had been grossly exaggerated. The commander of the local state police post claimed, "There was plenty of it going on." The fireman in charge of a rescue team said:

We would come over some ground the first time and there would be purses and wallets lying around on the ground. Then we would come back again on the way back over the same ground and they would be gone. Somebody /had/ picked them up.

Looters were seldom apprehended, and even less often brought to law. They tended to be dealt with privately. According to one private volunteer:

We found one guy with sticky fingers picking up stuff that didn't belong to him. /Q.: What did you do?/ We got him off to one side and beat the hell out of him. /Q.: Did you turn him over to the cops?/ Hell, no! Their hands would be tied and he'd go to court and maybe get off easy with a smart lawyer. We weren't messing around. We just handled it ourselves.

The protection of property during the rescue stage must almost inevitably be loose at best. But in all the towns the police concentrated on this as early as possible. In Beecher, the property still in the field after the rescue period was fairly effectively recovered by the police teams.

Finally, the field authorities instituted a pass system which was arranged at the local state police post during the night and put into operation the morning after the tornado. Passes were issued from

the post and represented the first attempt to control access to the field.

The police leadership handled the morgue, property collection, and passes more effectively than any other processes. They were alert to such functions, organized them well, and efficiently used available specialists. This was partly because these activities were not as urgent matters as other problems of the rescue period. But they were also successful because the work problems involved a combination of two factors: (1) Clear procedures which were familiar to the police; and (2) specific tasks which could be isolated and handled independently of other disaster activities. All three functions contained both characteristics. However, familiarity alone was not enough. Some problems which were equally familiar to the police, such as traffic control (notably in connection with Hurley Hospital), were not handled so rationally or successfully. Traffic control could not be isolated from other disaster work.

Similarly, even after the worst of the rescue period, specialized activities which were unfamiliar to the police were not dealt with effectively, regardless whether they were isolable or non-isolable functions. This is seen in two case studies of the exploitation of specialized services which were outside routine police experience. The cases involve a group of private construction contractors and the Civil Air Patrol, and we will examine these now.

Heavy construction equipment appeared in the field in such volume that it soon became a problem. One of the largest contractors in Flint undertook to organize the resources of several big private companies. They accepted his leadership and he became their spokesman. His office functioned as an informal rear headquarters, and radio announcements referred owners of construction equipment to his company for information and direction about disaster assistance. The contractor's own equipment had two-way radio and, within half an hour after the tornado, he had a radio-equipped car in operation as a "field station." Thus, he set up a working organization and offered its services to the County Road Commission and to the Flint police.

In the early stages, the contractor worked under the Road Commissioner, assigning bulldozers to the clearance of roads which the commissioner selected. These machines were excellent for this purpose, but thereafter became virtually useless. In the rescue and search, cranes and clambuckets were invaluable for handling debris and large objects off the roads. Localized damage, which varied according to the tornado's effects, determined where this equipment was needed. For example, there might be easy entry to the cellar of one house, while access to the one next door might have required a crane for the safe, quick removal of a collapsed wall or an obstructing garage roof.

The "spot" need for such equipment was great, but pinpointing the spots demanded the flow of information and requests to a field headquarters. Since this communication was spotty, there was little basis on which to dispatch equipment. One attempt to meet the problem was to scatter the equipment throughout the area on a roving basis because the needs were apparently randomly distributed. Meanwhile,

heavy equipment from other private suppliers continued to enter the field steadily. Some roamed the area while others reported to disaster headquarters. One supplier of automobile wrecking trucks stated:

Our wreckers reported to the state police and were not sent to any particular station or area or given any assignment. They mainly wandered through the general area.

This only added to the congestion, but no steps were taken to stop the flow of heavy equipment into the field.

The distribution of the machinery of both the "independents" and the major contractors proved unsatisfactory. It was massive and ponderous. Where it was not needed, it got in the way. Sometimes when a machine was not needed at the moment, the operator came down to help with some manual work and left the machine alone. He might return to find it gone--"lost." Well meaning, but inexperienced people occasionally moved these machines out of the way, or tried to use them and left them somewhere else--thereby removing them from possible radio control. The use of construction equipment by inexperienced people created many problems. They often operated the machines improperly, sometimes putting them out of commission and usually failing to do the job. They were a menace to victims and workers alike. In the hands of an inexperienced person, especially in the dark, a bulldozer could become a lethal weapon.

Furthermore, the head contractor found that, quite apart from congestion and inexperienced operators, the inefficient use of equipment only delayed operations. Unless rescue and search parties within a single block were coordinated, there would be no single wholesale clearance of obstructions, but bulldozers would simply push the same pile of debris back and forth all night long at the behest of successive squads of workers.

After the rescue and search phases and the most pressing road clearance, the Road Commissioner was reluctant to allow any additional work because he felt that he lacked the necessary authority. The contractor turned to disaster headquarters for definite work assignments, but in vain. By the end of the first night, neither the Commissioner nor the command post would give him jobs or even permit him to go ahead on his own initiative.

On the day after the tornado, these frustrations led the major contractors to go out "on strike." They threatened to withdraw their equipment and men unless some central authority would outline a policy which would enable them to proceed with the necessary work. They were willing either to accept direction or to take the initiative for the work they could do. But they balked at a situation which gave them neither, and they actually withdrew some equipment from the field.

Headquarters finally decided to put the head contractor in charge. He thereupon organized an operating plan, a general work schedule, an equipment pool with a central assignment system, a work-flow check, etc. Equipment which reported to the field was referred to him and he kept it in the pool until there was an assignment for it.

This setup, however, provided only a formal rationalization of work procedure. The contractors were not allowed to "establish policy" or to define the work which was to be undertaken. This lay outside their hands. The contractor claimed that considerable work did go on after the second day. But general clearance and cleanup were not handled systematically; spot jobs came along piecemeal and haphazardly. The contractors had a clear idea of what was necessary and how best to handle it. But they never had a clear picture of what those in charge wanted done. This was particularly exasperating to specialists who were accustomed to deal with such problems systematically and efficiently.

After several days of chafing under the authorities' indecision, the contractors simply quit. They withdrew their equipment, personnel, and voluntary services. Their further work was available strictly on a commercial basis. They protested against the amorphous leadership which left them to execute a "non-existent" policy when one could easily have been formulated. On the Civil Defense questionnaire, the chief contractor recommended:

Contractors and construction workers must be organized under one head (a contractor), and the government authorities give them orders on what they want done and leave the methods used up to the contractors.

This represents the perspective of an expert without policy-making powers, but not yet reduced to the role of a sheer technician.

This situation illustrates how authorities failed to exploit technical skills with which they were unfamiliar, but which, after the rescue period, could have been separated from other activities and organized independently.

The orientation of the authorities to the Civil Air Patrol was even more apathetic, if not negative. It will be recalled that early in the rescue stage in Holden, the state police specifically alerted the CAP to stand by on call. But this organization had a completely different reception in Flint. The CAP's response to the Civil Defense inquiry covers the situation from its point of view:

Our first intimation of the disaster was by commercial radio station broadcasts throughout the state....

At no time were we requested to send personnel or equipment to assist by any agency. On the contrary, the Detroit Red Cross headquarters informed us by phone, at our request, that everything was under control and that we definitely were not needed and a radio message purportedly from /the state director of Civil Defense/ was received by the Lansing Group that CAP was not to move in unless called (received approximately /five hours after the tornado/). CAP Wing Headquarters' efforts to contact CCD by land line /telephone/...were unavailing until late in the afternoon /of the next day/....

The agency nonetheless felt that it could provide valuable flight services. Accordingly, it pressed its offer of help to one agency after another without being accepted:

Flint Group Commanding Officer first reported to Sheriff's office, later to National Guard Headquarters, CCD Headquarters and state police. CAP people /from 120 miles away/ arrived with eight nurses and called the Red Cross Headquarters from Flint outskirts for directions. They were told the nurses were not needed. They called Hurley Hospital and were told to bring in the eight nurses--that they could use eighty nurses additional.

On the day after the tornado, the CAP finally decided to "break the door down" and entered the field notwithstanding. Its equipment included 30 aircraft, a dozen assorted vehicles (including bus, jeep, and ambulances), several dozen radios, seven power generators, 16 tents, and sundry miscellany such as floodlights and a public address system. In addition to the nurses, the CAP furnished over 300 personnel. While much of the equipment and skilled personnel may have been superfluous after the rescue period, the organization did have substantial resources at its disposal which might have been of valuable service during the rescue stage. In terms of specialized resources, the CAP was comparable to other major agencies. The organization pointed out:

Civil Air Patrol could have furnished nearly nine times the personnel and at least five times the equipment which we did furnish and one day sooner than we did, had the request been made and the mis-information given us restrained.

In line with its specialized function, the CAP reports it flew 70 sorties (individual flights) on damage surveys, had flown in emergency equipment and supplies, and flown various agency personnel and journalists on inspection flights over the area. Although the CAP was not the only agency capable of furnishing flight service (the state police, National Guard, and others also had planes), it was clearly the aviation organization.

The CAP report concludes:

The Unit C.O.'s of CAP throughout the state all have commented that "no one called upon us, no one wanted us to come, but when we got there we found the need to be great and our assistance was welcomed with open arms by those agencies which knew what they were doing...."

In the...tornado area /in the southern part of Michigan/, the CD area head informed the local CAP sqdn. C.O. that our services were not required. In spite of this, two damage survey flights were made and the data secured turned over to CD who were glad to get it....

As in the case of the contractors, the authorities in Flint apparently had no clear idea of how to exploit the services and resources of the CAP most effectively and were not positively oriented to the group. Their attitudes later became definitely negative because of the alleged amorous proclivities of some youthful CAP personnel--but this in no way illuminates the authorities' original disregard of the CAP, despite the significant resources at the group's disposal.

The experiences of the contractors and the CAP indicate that even when specialized functions could be separated from other disaster activities, the police leadership was unable to exploit unfamiliar services as effectively as those which could be related to police work.

Beyond the specialized functions, a formal and informal differentiation of authority groups took place. The state police in charge of the field were backed by a "board of directors," consisting of the Governor, the state director of Civil Defense, and the state police commissioner. Acting together and separately, sometimes on the basis of field information, sometimes without it, members of this group were involved in the conferences which brought the Detroit police into the field, medical personnel from the university hospital in Ann Arbor, Civil Defense radio equipment from Detroit, the emergency hospital into downtown Flint, and other decisions. These were not necessarily made in collaboration with the field authorities.

A local disaster committee was also formed in Beecher on the day after the tornado. Composed of county officials and the heads of various operating agencies, the committee met daily to deal with various disaster problems. It was less concerned with short-run details of the field situation than with raising emergency relief funds under various governmental programs. The committee approved proposed field activities for each day, and left the details to the state police field commander. He had almost complete freedom of action, but the cleanup of the area proceeded casually and unsystematically. In Beecher, the post-rescue transition from police to civilian control was less drastic or abrupt than in the other three towns. The police remained in power but did not push a vigorous program.

Aside from the formal authority groups, several informal blocs developed. The first and strongest of these was the police cluster of the state police, the Flint police, the National Guard, and some private plant-protection police from local industry. Many of the plant-protection department phoned the local post of the state police in the hope of finding him there or getting information on his whereabouts. The plant personnel entered the disaster area almost as quasi-public police and collaborated with their public colleagues.

The police in this public safety network were positively oriented to one another--although this does not imply that their operations were closely coordinated. They worked fairly independently, and their contacts were fairly casual and unplanned. The texture of their relations was harmonious and cooperative; they viewed one another without antagonism or indifference; they saw each other as potential sharers of information and as partners when mutual assistance was necessary. Within

a fairly independent operating base, they were positive figures for each other.

The public safety network was distinguished by two characteristics: (1) It was built around a core of local people, and this had several effects: (a) It blurred the distinction between local and outside groups. The outside state police and militia had some bridge to local people through their Flint units. So the nucleus of local affiliates helped to promote solidarity in the public safety network. (b) The local people were familiar with the district and the location of resources, and they could furnish the outsiders with quick information or orientation through the network. For this reason, the sergeant in charge of the local state police post worked as an aide of the state police commander. Actually, the local people tended to be somewhat more oriented to one another than to the outside members of the network. Thus, they turned to the sergeant of the local state police post before turning to the Lansing captain. This was less a preference than the greater prominence of familiar over strange figures.

At the same time, (2) the solidarity of the dominant police bloc was complemented by an informal exclusiveness. Just as some groups were "in," others were as conspicuously "out." This included an array of police and non-police groups, technical specialists and non-specialists, political and non-political officials, and local and outside people. Aside from such "civilian" agencies as the Red Cross, the CAP, and the private contractors, some prominent public authorities were excluded. Among the more important were the Detroit police, the county Sheriff, the Flint fire Department, and Flint's top political officials -- the mayor and city manager. The case of the Detroit police has already been reviewed, and we can now examine some of the other relationships.

The Sheriff was not only outside the public safety network, but his office played an insignificant role in the disaster. This was a matter of consensus among all disaster participants, newspaper reports to the contrary notwithstanding. The Red Cross Chapter chairman stated, "The sheriff was useless. He was a non-entity in this." The Assistant Sheriff himself flatly described the staff's role as "negligible." Although the Sheriff had a representative in the command post and a few men in the field from time to time, this was largely a token gesture of participation. Calls to the Sheriff's office about the disaster were referred to the National Guard. On the whole, the Sheriff's role was one of abstention.

Several factors contributed to this limited participation. First, the Sheriff himself was mortally ill in the hospital when the tornado struck. The organization had only provisional, tentative leadership whose authority was not definitive and secure. Second, the Sheriff's staff was small, barely totalling two dozen men. It could not begin to compare in size or facilities with the major police groups, each of which furnished disaster personnel running into three figures. The Sheriff's staff was clearly incapable of handling such an emergency without a great deal of help--although this does not account for its limited participation aside from its leadership capacity.

This was largely a function of a third factor, the relations between the Sheriff and the local state police. The tornado struck Beecher in Genessee County. There was friction and a long-standing rivalry between them about jurisdiction in the county. This chronic dispute had never been settled, and a deep, competitive antagonism separated the two organizations. One state policeman claimed:

Some police agencies--especially the Sheriff's department--are envious of the state police. They feel that we infringe on their territory. They are not willing to submit to our authority at any time.

Inasmuch as the state police were active from the outset of the disaster in territory where the sheriff claimed jurisdiction, this simply reopened an old wound. When the Governor officially put the state police in charge, this rubbed salt into the wound and conceivably threatened to settle the jurisdictional dispute permanently. In any case, the Sheriff's staff played only a token role.

Another figure outside the informal bloc of police agencies was the mayor of Flint. He had no regular contact with any organization and he was not actively connected with field operations. His was largely an independent role, shaped mainly by his symbolic position as Flint's highest public official. Groups in Flint and outside political officials commonly showed him official courtesy. In practice, this meant that when anybody decided to open emergency facilities within Flint proper, the mayor was customarily informed. Similarly, in the higher level decisions about the emergency morgue, the Auditorium hospital, and the importation of Detroit personnel, Lansing officials first cleared with the mayor before actually going ahead with these projects. This reflected political courtesy as much as legal necessity. As subordinates of the mayor, the Flint police would probably have informed him of such impending decisions, but it is doubtful that the state police or National Guard would necessarily have felt the same obligation.

In general, non-Flint agencies and non-politicians felt no obligation to consult the mayor about operations outside Flint. Police groups had no special respect for the mayor. This perhaps was a reflection of the lack of esteem which police commonly had for non-police in general and for political officials in particular. Except for the token extensions of official courtesy, the mayor was a solitary figure whom the public safety bloc ignored.

Two other Flint officials, the city manager and the fire chief, were similarly excluded, but they tended to crystallize as one minor, informal axis. The isolation of the fire chief from the police contrasted with the pattern in Worcester. It was based on the relatively small role of the Flint fire department in the field which resulted from a conscious decision by the chief. The volunteer fire departments from the mutual-aid association were all in the field and they extinguished the two minor fires that developed. There were no significant fire problems and the Flint chief purposely withheld the bulky fire equipment in order to minimize the congestion. He sent only the first-aid and rescue squads (with auxiliary firemen) into the disaster

area. Except for these teams the fire department was not in the thick of operations.

The police regarded the fire department as a virtual non-participant and expressed this estimate aptly. The fire department had no independent radio system, but it used the Flint police department's radio facilities, working through the police control station. During the disaster, the police made almost no radio time available to the fire department and thereby restricted the contact between the fire headquarters and its men in the field.

The fire department was not a non-participant because of reluctance or policy. Indeed, it wished to contribute to the disaster effort. Men in the department had some ideas about establishing a screening and aid station at the fire house near the disaster zone and wanted to help in various support operations. But their isolation and lack of communication created difficulties.

At the same time, the city manager found himself ignored even more than the mayor, and he, too, wanted to assist in the disaster. Both the city manager and the fire chief were directors in the Flint Civil Defense and had good personal and working relations with each other. In their common isolation, they started to consult together. Both men were Civil Defense officials, but this may have been incidental to their alliance. A liaison developed that resulted in several actions, mainly the establishment of the screening first-aid station in the fire stations near the disaster area. This informal axis of cooperation was the second to develop in Flint, and a rather weak one it was.

Of the informal authority groups, only the dominant police bloc had any viable power in the field. They were not hampered by legal restrictions as were Flint's municipal officials. These public officials had absolutely no jurisdiction or legal status in Beecher, they knew it, and they were sensitive to it. Their potential authority in the field was limited. During the rescue operation the police were relatively free of cross-pressures between human needs and legal limits. Thus, the Flint officials' decisions about Beecher proper were restricted.

Beecher's lack of local authorities, the pseudolocal authority conferred on the state police, and the ambiguous jurisdiction of Flint officials all contributed to the equivocal authority situation during the rescue period. In the muddled relations among political officials and police, both in the field and outside, several characteristics appeared during this time. Among the political officials, the outsiders acknowledged that Flint officials had local "interests" and, to this extent, rights of consultation on some major decisions. Between police and political officials, police subordinates deferred to their official superiors, however reluctantly at times. But the police recognized no "local" political authority and made no obeisance to political officials who were not their direct superiors. Finally, all police groups, whether local or outside, acknowledged the official authority of the state police. In actual operations, however, the major police groups tended to function as independent equals. Within this structure, the informal blocs crystallized along lines of cleavage and internal solidarity.

It is apparent that the disaster ushered in a highly chaotic, amorphous period which was followed by the establishment of a formal authority system. This was a commitment to order and to the overall organization of operations. Yet under this formal system, the early mass assault and independent operation persisted without appreciable change or integration -- and did not achieve the level of organization in the other towns studied. There was some differentiation of activities which were familiar to police and could be isolated from other disaster work. These were carried out with facility, and specialists were successfully employed in these services. Specialties which were unfamiliar to police were not successfully organized, even when they could be divorced from other disaster activities. The differences reflected not only police experience, but also their orientation to these functions and to the experts. This mode of differentiation and the lack of overall survey indicate the leaders' limited approach to strategic organization.

This constitutes the major problem for analysis in the Flint disaster. The Governor established a formal system of power and legitimate authority. Yet there seemed to be a significant inhibition of overall leadership. How can we account for this restriction of leadership in the system? One hypothesis might question the leadership capacity of the state police commander. Some informants thought the captain was indecisive, irresolute and restrained. They regarded this as a sign of personal weakness under stress. But this hypothesis must definitely be rejected. The captain had a long, successful service record with no history of personal failure, either in command positions or under stress. We may confidently assume that he gave decisive leadership to subordinates in his normal work. Furthermore, he had active experience with a smaller tornado which hit another town less than a month earlier.

Other informants sensed something beyond sheer personal failure in his approach to problems. One observed:

He seemed to be awfully careful about offending anybody or stepping on their toes. He didn't want to give the impression of pushing the other guys around. When he gave orders, it didn't sound like someone giving commands. I guess he's just a nice guy and didn't want to hurt anyone's feelings.

Clearly, however, there was far more to this than a commanding lion implausibly turning into a meek lamb. This was not the case. A more fitting explanation lies in latent strains among the various police groups. These arose from the sharp differences between the normal authority situation of the police and their disaster situation.

In the normal, ideal-type police context: (1) The police authorities are responsible for maintaining order and control. (2) Their jurisdiction covers a definitive, clear-cut territory with sharp boundaries.⁶ (3) Within this territory, police authority is a monopoly; jurisdiction is exclusive and not shared with other police. (4) Police

respect each other's territorial integrity; no group normally infringes upon the jurisdiction of another, nor is transgressed upon. (5) Consequently, no police force ever comes to dominate or be controlled by other police groups unless jurisdiction is absolutely clear and orders hierarchical relationships; each normally dominates only non-police and is subordinate only to political superiors. (6) Further, there is an implicit assumption that police can control any disorder that might normally arise. (7) Special emergencies which are too big or complex for the local police force are met by specific institutionalized provisions, such as the declaration of martial law, the intervention of the FBI or other agencies, etc. These emergency provisions specifically modify normal police powers and responsibilities and temporarily alter the relations between police groups. Thus, the normal police agency operates in a highly institutionalized situation. The assumptions and conditions governing its role are well worked out, and they are built into the system as a set of norms.

In the tornado situation, almost all these norms were completely disrupted. There was an abnormal kind of disorder and control problem; there was no local authority to represent the community; there was no definite territorial jurisdiction; no agency had a natural claim to a monopoly of authority; various agencies entered the area freely; one police group was specifically empowered to dominate other police; the magnitude of the disorder was clearly beyond the capacity of any single group; none of the common institutionalized mechanisms to cope with extreme emergencies was invoked.

Thus, the disaster completely unstructured the normal role relationships among police. The formal system placed them in unusual superior-subordinate positions on "alien" ground in a manner which violated all their norms. The conventional territorial basis of legitimate claims to superior authority was lacking. Consequently, the relationships between police were a potential source of severe strain.

Under these circumstances, several modes of adjustment were possible. Basically, (1) the normal criteria governing police relations may be waived during the emergency, or (2) these normal criteria may persist. These patterns have different implications for operations. If normal criteria continue to govern police relations, the potential strains can be controlled by independent functioning, little integration of operations, and inhibited leadership. If normal criteria are waived, different groups can be assimilated as elements of an overall system. We might then expect to find a voluntary acceptance of the official system, efforts to communicate freely, a restriction on independent functioning, pressures toward coordination, and fairly decisive leadership. How can our data discriminate the norms which prevailed?

We must first ask whether the police in Flint were in fact prepared to waive normal criteria and to collaborate in an integrated system. If so, inhibited leadership would account for the limited integration of operations. In other words, were there the necessary follower conditions, but not the necessary leadership conditions? Were the followers ready to be coordinated and the leaders unwilling to coordinate? This possibility must be rejected on two grounds. First, some police groups, notably the Sheriff and the Detroit police, never showed a positive orientation to the system. Second, the patterns of independent functioning

were well established before the authority system was set up and they continued without interruption or expectant hesitation. There is no evidence that the independent police groups shifted their orientation or their communication patterns to the system or that they looked expectantly for leadership or direction, or that they hesitated even momentarily in order to see how the overall leaders might try to coordinate the separate operations.

We can reverse the question and ask whether the authorities attempted to furnish strategic leadership and were resisted by the other police groups. In other words, were there the necessary leadership conditions, but not the necessary follower conditions? Were the leaders ready to coordinate and the followers unwilling to be coordinated? This possibility must likewise be rejected. There was no evidence that the leaders took a strategic approach, even when this did not depend on the cooperation of other police. The omission of a survey would alone confirm this. A strategic survey could have been made by several small teams from one organization. Balking followers would not have prevented this focal leadership decision.

Thus, leaders and followers both seemed to have the same orientation to integration. This implies that, like others, all the police structured the crisis in the most familiar possible terms. None of the police brought new norms to their definition of disaster roles.

This was even reflected in those operational judgments where normal operating criteria prevailed. For example, the police dealt smoothly with specialized functions which they understood. But they showed little perspective in handling unfamiliar specialties which might have been effectively organized, for example, in the failure to delegate power to the contractors. Second, where legal issues were not involved, the police usually made independent decisions without consulting available experts who were often directly concerned in the decision. The attempts to relieve hospital congestion were typical. Hurley Hospital authorities were not consulted about opening the emergency hospital in Flint or various aid stations; the police did not explore possible means of shifting patients (such as organizing the necessary transportation to move casualties selected by the hospital). Further, the police largely ignored political officials who were not their direct superiors. These observations are not critical, but simply illustrate the conventional norms which dominated operational decisions.

Other evidence also shows that conventional police norms prevailed. The police groups took each other as their major points of reference, but ignored others. We have seen how the police did not perceive "civilian" groups as salient, but generally regarded them as of secondary importance. This was exemplified in attitudes toward the CAP and the contractors; the relation of the state police to the Mt. Morris fire department and the Red Cross in regard to the drive-in theater; the limited amount of radio time which the Flint police radio control center made available to the fire department; the by-passing of medical authorities; and so on.

While the police viewed these groups "neutrally," political officials were more emotionally-tinged symbols. The police expressed their most negative sentiments about political figures, such as one police

chief's disparagement of the Flint mayor. But the contact with political figures tended to be limited.

More direct evidence of the salience of police for each other was the non-participation of the Sheriff's staff, the withdrawal of the Detroit police, and the crystallization of the public safety bloc. Second, the police were aware of the general problems of their relations to one another. This reflected in the state police contention that the Sheriff refused to submit to state police authority and the mutual avoidance of the Detroit police and those in the police bloc. Finally, within the framework of independent functioning, the police groups voluntarily interacted more with each other than with non-police groups. Also, outside police volunteered their help to other police more than to officials (the Detroit chief formally contacted the Flint police, the Genessee County Sheriff, and the Sheriff in the adjoining county; the sheriff's association offered help to the Sheriff; specialized police enterprises such as the morgue were jointly conducted; etc.). Thus, the data indicate that police were particularly aware of one another in both positive and negative terms, that they were conspicuous points of reference for each other, and that their relations were governed by conventional standards rather than special emergency norms.

Underlying the inhibition of leadership, then, was the failure to waive normal authority criteria in the police relationships. It is clear from the three Massachusetts towns that this adjustment is by no means inevitable. But when it does occur in disaster, what factors account for the failure to invoke new norms?

The disaster occurred in an authority vacuum. Beecher was not the sphere of exclusive jurisdiction of any police group. There was no "home ground," no local "host" organization, no "natural" authority inherent in the case.⁷ Thus, from the legal standpoint all the police were literally outsiders, although at least four groups might have claimed quasi-local status (the Sheriff, the state police, the National Guard, and the Flint police). But insofar as all the police were virtually "infringing" on territory where they had no clear jurisdiction by law or police norms, any group which assumed overall authority was in the possible position of an "imposter." Natural jurisdiction, therefore, was not a principle which legitimized authority.

Similarly, competence was not a legitimizing principle. The four major law enforcement agencies (the state police, Flint police, National Guard, and Detroit police) were all distinguished by large resources and undisputed competence. While none of them could have handled the situation without help, each was probably objectively capable of furnishing overall leadership. There may have been differences between them, but all had the minimally necessary leadership qualifications. None could have been eliminated from consideration on the sheer basis of competence. Thus, at least four groups qualified on this ground.

Further, sheer availability was not an over-riding criterion. It took all the major police agencies some time to mobilize their full disaster strength. Only segments of the state police, the Flint police, and the National Guard were immediately available after the tornado. Most agencies took at least two hours to mobilize large forces, since

state police and National Guard personnel were mainly brought in from outside. Although it was at some disadvantage, the Detroit police might conceivably have been activated in the field in about the same period. Consequently, availability was not the discriminating factor in the allocation of authority.

Thus, of the four major police groups, none had a claim to authority inherently superior to that of any other on the basis of conventional norms. None was obviously most qualified on grounds of normal jurisdiction, availability, or competence. The Governor fortunately had an array of talent at his disposal. He could have conferred overall authority upon any of the four and could easily have justified his choice. From the standpoint of the organizations themselves, there was no obvious a priori ground or objective principle to indicate the "appropriate" authority group. Authority could only be allocated on an arbitrary basis--which in no sense detracts from the actual choice of the state police.

That the proper locus of authority was ambiguous was documented precisely by the Governor's formal intervention. His appointment of the state police was a clear attempt to resolve the unstructured situation by supplying the missing authority determinate. In other words, authority could only be conferred and legitimized by fiat. In no other town studied was such a declaration necessary.

But the formal designation of an overall authority immediately limited the leadership initiative which any other police could safely exercise. Strategic leadership was now the responsibility of the state police. Undue initiative by others would implicitly question the competence of the state police or the legitimacy of its authority (and ultimately the Governor's judgment). Decisive leadership by others could appear as open criticism or attempted arrogation of authority. Such a course could have the gravest repercussions. There is no shred of evidence that anybody ever considered the prospect for even a moment. Thus, the delegation of formal responsibility built into the system limits on the possible initiative of other police. The overall leadership options now rested squarely with the state police. The disaster was their responsibility.

Yet the situation was also fraught with deep strains for the state police. As "imposters," their authority had been determined by arbitrary standards, almost as if by chance. They could as easily have been in a subordinate position. To exercise such an adventitious authority decisively might have impressed other police as presumptuous, pretentious, or aggressive. It might even be construed as a reflection on these others' competence. Certainly, their dominance by the state police would have violated the cardinal police norms of autonomy and conventional freedom from direction by other police. Thus, the Governor placed the police in unaccustomed superordinate-subordinate positions which harbored potentially severe strains because of the persistence of usual police norms.

This seems to be the basic source of the state police commander's caution. In the informant's terms, he was "awfully careful about offending anybody or stepping on their toes," and "he didn't want to give the impression of pushing the other guys around." If our analysis of

major police reference groups and norms is correct, the "anybody" and "other guys" were primarily other police to whose judgments the state police leaders might have been most sensitive. The root of the inhibition of overall leadership, then, lay in the police norms of independent, exclusive authority which demand that police be insulated from other police and neither control nor be dominated by them -- most particularly in spheres of ambiguous natural authority.

There are structural as well as economic grounds for police monopoly. The domination of one group by another undermines the exclusive power which stabilizes normal police authority. Any challenge to exclusive jurisdiction weakens the legitimacy of police authority and thereby vitiates their collective representation of the community. In this case, their authority brooks no open challenge, for this breeds potential competition. Thereby the right to exercise authority could become the prize of open competition among various claimants. Such competition could shift the basis of authority from legality to sheer power. Various mechanisms regulate the indiscriminate use of force and thereby protect the community from its possible effects. The ruling principle is that the legitimate exercise of force inheres in public authority which ultimately resides in the community as a whole. This authority is then delegated to a single collective representative (the police) through institutionalized non-competitive means. Thus, within a given jurisdiction, police authority is ultimately indivisible. It can brook no competition and still remain stable. The competitive threat implicit in dominant-subordinate relations among police cannot be easily faced because it contradicts the corporate basis of police power.

Potential competition would also threaten police stability because it would invite comparisons of performance. These could create strains because competence is necessarily assumed as a condition of the monopoly of police power. The police represent a continuous institution, nominally above short-run policy controversies and ideally neutral politically.⁸ Their concern with order presumably involves the welfare of the community as a whole. They are responsible for the continuity of stable life-conditions rather than short-run change, and there is a nominal consensus about these communal goals (Kennedy, Brooks and Vargo, 1969). The commitment of police to community stability demands ideals of service and an identification of their interests with those of the larger community rather than with limited segments of it or with narrower self-interest. This identification is presumably fostered by freedom from comparative performance tests and by insulation from competitive pressures. The stabilization of their position ideally frees them from conflicting interests and from short-run or chronic insecurity which might undermine their service ideals. Their service can then supposedly be guided by considerations of group welfare rather than self-interest. Thus, as an organization, the police are almost necessarily assumed to be both honorable (community-oriented) and competent, until the contrary is demonstrated. This assumption is not only important for the motivation of police, but seems indispensable for the community's peace of mind and confidence in its institutions of control.⁹

Under these circumstances, police organizations are not accustomed to prove their competence formally, nor, as monopolists of community

power, to have their performance compared in competition with other groups. The insulation from competition reinforces the assumption about competence. This became especially important in the Flint disaster whose demands might threaten any complacency about adequacy. The formal emergency system did not insulate the police organizations from possible invidious comparisons which might have injured the prestige of some groups (the Sheriff's office certainly did not benefit). But the independent operation of the police agencies informally provided just this normal insulation from invidious comparison.

Our analysis has concerned the sources of possible strain when police groups move from their normal context into an extreme authority vacuum as appeared in Beecher. These strains were accommodated by an avoidance of dominance. The ultimate effect was to inhibit decisive leadership and exercise of authority.

This adjustment was not necessarily inevitable. But the response to potentially competitive strains by restraint and fragmented activity may not be rare. A conspicuous example appeared in the Netherlands flood of 1953. Tensions between two leading authorities drove them far beyond the independent functioning found in Beecher. Operations reached a point of semiparalysis, and the disputants evidently wanted a superior authority to intervene and resolve their difficulties. The analyst gives the following account and interpretation (Courtney et al., 1953):

There was one basic conflict in the Dutch response to disaster. The waterways authority, which is a top civilian authority, approached the disaster as a reconstruction problem, since their concern is the building and maintenance of dikes. The waterways authorities did not appear to recognize the more imminent and, in human terms, the more important problem of life-saving....(11)

Early in the disaster the Dutch military was called in to alleviate suffering.... There was a good deal of friction between the Dutch civilian authority and the Dutch military authority, in that the military thought in terms of human rescue whereas the civilian authority thought in terms of dike repair. (12)

No differentiation was made...between immediate needs and long-term needs. This is clearly apparent in the establishing of an engineer as the one in charge of the field operations, for most of the basic engineering requirements. (16)

In this operation, reconnaissance /survey/ appeared to be especially weak. The advance arrival of a U.S. team in the area /about 40 hours after the dikes broke/ led to the first apparent reconnaissance of the disaster situation...by General Eddy and high-ranking staff members by air.... /This survey seemed/ to be a somewhat less than adequate reconnaissance /and/ it was very high-echeloned.... (16)

No early attempt was made to move /rescue/ units to a more advantageous location.... The delay in bringing rescue units to the scene appears to be a function of the nature of the reconnaissance that was carried out.... The delay in reconnaissance and its general inadequacy... involving no action undoubtedly led to a much greater loss of life than might have occurred /sic/. (17)

In some cases the victim was not able to communicate his plight for as long as twenty-four to thirty-six hours after he was struck. In other cases, no communication was possible and victims were trapped for as long as three or four days before rescuers came close enough to be alerted. The first twenty-four hours were the crucial ones, however, and the hours in which most of the lives were lost. (19)

Why the Dutch had not already carried out a similar reconnaissance and more clearly formulated the extent of the disaster and the rescue requirements is not known. We suspect, although we have little evidence to support it, that the Dutch hoped to reconcile the conflict between their civilian and military people by getting a third party, General Eddy, to act as the unifying force. (16)

For our purpose, it is significant that the inhibition of action was probably closely linked with a conflict between the two authority groups.

Equally important in Flint was the failure of the Governor's fiat to neutralize the potential strains in the situation. His assumptions about the emergency did not cover all the values relevant to the police. When the police were faced with the prospect of waiving their normal criteria or continuing to operate by them, the regular police norms prevailed. This was not necessarily a conscious decision, of course, but simply resulted from their avoidance of possible frictions. As it developed, there was cooperation in the public safety bloc. But everybody's autonomy remained intact and nobody was obliged to relinquish his basic independence or subordinate himself to any central direction or control. The continued autonomy might well have been a vital condition of the harmony.

The statement of one police officer reveals a predictable sensitivity to the delicate issues in the relations of normally independent authorities:

The Saginaw Valley Law Enforcement Agency has been talking about organizing all police departments into squads for emergency and disaster work.

Q.: How do you think this would work out?

I have my doubts. We all have responsibilities to our own groups. We would be reluctant to release men. Then there is always the question of authority--.

Here the prospect of relinquishing autonomy was viewed with skepticism and reservations. In another disaster, the proposed organization might well reproduce the leadership patterns in Beecher. Formal organization might be aborted.

It should be noted that comparable competitive strains did not appear among major police groups in Shrewsbury, Holden, and Worcester. But no Massachusetts police group was confronted with a local authority vacuum or the dilemma of assuming leadership in an alien jurisdiction over equally competent bodies of police.

Conceivably, if there had been only two major police forces in Beecher, overall leadership might have materialized. The customary norms might then have been waived. Two groups might have worked as equal peers, or have divided responsibility and authority in some fashion, or have worked out a superordinate-subordinate relationship in a tacit "gentlemen's agreement" similar to the Shrewsbury arrangement (where the militia subordinated themselves to the police chief). With "third parties" present in Beecher, however, there were greater complications from potential judgments of other groups. And this discouraged any tacit private adjustments.

Social Services

The data on Flint present basically different materials for analysis from those of Worcester. Although Flint reportedly saw considerable friction between the Red Cross and other community agencies, the major problems concern medical aid.

The pattern of social services bore some resemblance to that of Worcester: There was a plethora of emergency housing which was little used; most of the people fed were the disaster workers rather than the victims; there were large clothing donations, but registration and welfare inquiries (as well as relief needs generally) flowed mainly through preferred private and informal channels; there was a great deal of personal initiative in medical aid by a number of officials and strategically located agency volunteers which created more operational problems than it eased.

During the rescue period and the early part of the emergency phase (i.e., for almost 18 hours), there was no progressive integration of social services. Different groups, agencies, and officials took independent action. There was occasional consultation among officials on highly discrete projects, but little overall coordination of social services.

Immediately after this early period, there was evidently little doubt among Flint officials about the proper agency to take charge of relief operations. In a public radio broadcast the day after the tornado, the Flint mayor announced, "I hereby officially designate the national Red Cross as the official disaster relief agency in Flint... for assistance to families and individuals." Such an appointment, of course, could apply only to Flint itself and had no legal status in Beecher where a good deal of the actual relief work was going on. Consequently, the official structure bore only a slight resemblance

to the actual situation. The relations between the Red Cross and other community agencies was apparently marked by mounting frictions during the first week. These culminated in a jurisdictional dispute which evidently had to be settled by formal negotiation, but the present research has no reliable data on this conflict and its settlement.

Relief. The independent operations of the first night were marked in relief activities. Almost 350 homes were destroyed and over 100 severely damaged and in need of major repairs to make them habitable.¹⁰ This would indicate upwards of 1,800 people displaced the first night.¹¹ Three major emergency housing shelters were established, and these apparently were used by even fewer people than in Worcester. The Salvation Army threw open its downtown headquarters as a dormitory with 150 beds. The Red Cross was given permission to take over a municipal field house near the disaster zone, which the agency opened as an emergency shelter with 150 beds. A third shelter of comparable size was opened by the mayor in a community center near the stricken area. In addition, lesser housing facilities were prepared by a number of private community groups: Churches, old folks' home, YMCA, a hotel, etc. Private individuals also made offers of housing to the police, the Red Cross and others, although not nearly on the scale which developed in Worcester. On the first night, public agencies housed perhaps two dozen people. One family was put up at a local hotel and others presumably were accommodated in private facilities.

The three major housing shelters were arranged independently without consultation among the officials and agencies concerned, although the mayor was probably informed of the Red Cross' intention to convert the field house into a dormitory.

The lack of coordination of housing arrangements upset the Red Cross director considerably. Shortly before the disaster, he returned to Flint from a relief operation in a town which had experienced a small tornado several weeks before. He insisted that housing needs would be minimal in Flint. He expected that the Red Cross field house shelter would easily cover all requirements, and the chapter had enough bedding stocks on hand to equip another emergency shelter in case the field house were to prove inadequate. He claimed that he never expected the mayor to open another shelter at the community center. He was annoyed by the uncoordinated housing arrangements and the ignoring of the Red Cross which he felt to be the logical agency to take charge from the outset. He claimed that because of the lack of coordination of housing and information from the field, he pleaded with the mayor to set up some central information service to help in planning operations. No information center was organized the first night, and operations continued without integration.

There were no dysfunctional effects from the sheer duplication of services, but some developed from the lack of coordination. Apparently the mayor and the Salvation Army had put out public radio appeals for bedding donations. Most of the contributions were delivered either to the disaster zone or to the Red Cross. This only served to aggravate the severe congestion because the Red Cross had large bedding stocks of its own on hand.

As in Worcester, most of the people fed by public agencies were volunteer workers, not victims. The Salvation Army was the first organization to get food into the field, to set up a fixed feeding center, to have hot food, and to serve meals. According to the head of that organization, within an hour of the tornado, 50 uniformed people were distributing food and coffee in the field. The next morning, the Salvation Army set up a tent at the main intersection in the heart of the disaster zone and began to serve hot food in the afternoon. The Red Cross also set up a tent further along the road that day.

The Salvation Army prided itself in its choice location as evidence of its initiative and effectiveness. People began to congregate at the tent, and its advantageous locale became a point of tension after the Red Cross was declared the official relief agency in Flint. The Salvation Army contended that the Red Cross was jealous, that it resented the "pre-emption" of the central site and demanded to know by whose permission it was occupied. Under the circumstances, the Salvation Army saw no reason for requesting permission to use the site or to relinquish it to anybody else for feeding purposes. The rancor about the location exemplifies the tension which developed between the two organizations.

The acrimony between the agencies was further illustrated by two possible incidents reported by Salvation Army informants. A Red Cross worker knew a disaster volunteer who was waiting in line for a hot lunch at the Salvation Army tent and sarcastically remarked to him, "Well, I see that you're eating at our competitor's." On another occasion, a Red Cross worker was distributing coffee and doughnuts in the field and came into the Salvation Army tent under the impression that it was the Red Cross canteen. After serving several disaster workers, she realized her error. But before leaving, she is reported to have taken from the Salvation Army the amount of coffee and doughnuts that she had served. These incidents may be true or they may be gossip; the research could not validate them. But they are less important as factual accounts than as images which members of the two organizations had of their relations.

There were many by-products of competition between them, including avoidance, and a note of animosity when they had contact. One Salvation Army official summed up the situation from his organization's point of view:

The Red Cross came in and criticized the Salvation Army /about several things/, asking us if we were asleep and making suggestions.... A spirit of competition and bitterness crept in.... The Red Cross's attitude was that they were the exclusive agency and the Salvation Army had no business in there.

Red Cross officials however claimed that the relations between the two groups were amicable.

The successful service of the Salvation Army made a most favorable impression on people in the field, and this was recognized and rewarded in several ways. After the emergency stage, when the high school had

been sufficiently cleared of debris, the state police turned the kitchen and cafeteria over to the Salvation Army (and the disputed tent canteen was closed). Ultimately, the organization served as many as 700 meals daily to disaster workers and agency personnel. The use of the school facilities not only enabled better service, but was a clear acknowledgement of valuable services already rendered and a mark of prestige. Further, before disaster operations were closed down, the police who had been on disaster duty took up a voluntary collection and turned the proceeds over to the Salvation Army in appreciation of its services.

In this situation, the Red Cross had formal authority in Flint, and the Salvation Army did not dispute the status of the Red Cross within the city. But in the principal operating arena, the Salvation Army was given informal recognition both by the field authorities and the beneficiaries of the services. Thus, there was no open fight for authority in Beecher, but a competition in services in which the authorities did not officially intervene. In Beecher, the Red Cross did not have the legal position of the Worcester chapter in the city and there was no way of compelling the state police who were in charge of the disaster area to abide by the formal authority pronouncements in Flint. Thus, with separate jurisdictions, there was no sure way to bring the formal and informal structure of services together for the larger disaster area.

The feeding services in Beecher were supplemented by considerable private activity, especially for the first few days. Local women brought coffee and sandwiches into the field or to the state police post for distribution.

This emphasizes a strong orientation to the local area which was marked in the distribution of clothing. Clothing donations were heavy from the outset and were freely available to disaster victims. Most of the distribution took place through the Salvation Army, the volunteer Beecher fire department and other community groups. The Red Cross reported little demand for clothing. The victims' selection among the groups giving help was dictated by many sentiments and images apart from the agencies' official status. Beecher people seemed to cling to local community facilities in a manner reminiscent of Holden, and they preferred those agencies which informally accommodated themselves to these sentiments with a minimum of bureaucratic procedure.

Thus, in the overall relief services, the official gesture to centralize formal authority in Flint was largely ignored by Beecher residents in favor of informal procedures and local groups. The support of the "clients" was the decisive factor in the flow of services and the prestige of agencies.

Registration and Welfare Inquiries. The overall pattern of registration and personal welfare inquiries in Flint basically resembled that in Worcester. There were certain similarities and differences which are worth noting within the gross pattern.

Among the similarities: (1) The use of private channels of communication was much greater than the reliance upon public agencies.

(2) The Salvation Army claimed that it offered the Red Cross help with registration which was refused. The Salvation Army had records of a complete school census which had been completed in Beecher about two months before the tornado. While this did not include all residents, the census did cover all household units, the name and address of the head of household, and the number of children of school age. The Salvation Army felt that, as far as it went, the information was definitive and might be helpful in accounting for many people. The agency offered it to the Red Cross, but claimed that (as in Worcester with Civil Defense) its offer was declined.

Among the differences: (1) There was no consolidation of a master register for the location of victims. Various organizations collected identifying information in connection with their work, such as the hospital censuses and casualty lists. But this was seldom seen in a "registration and inquiry" context. (2) The commercial radio stations were not used for personal location or welfare inquiries. While this assumed major proportions for all Worcester stations, only one small (non-network) station in Flint carried any private messages. Flint people exerted no pressure on the stations for this service even after it was started, and the independent station reported only several dozen requests for such announcements. The Worcester radio stations adopted a conspicuous public service orientation during the disaster; the Flint stations' public functions differed very little from their normal, non-disaster services (although news coverage of the disaster eventually broke up scheduled broadcasting). (3) The Red Cross was the only public agency which had any significance in registration and inquiries; this was largely confined to inquiries. This is apparent from the full data on registration and inquiries through public and private channels which are consolidated in Table 5. These materials are parallel to those for Worcester (Table 3) and are derived in the same way. As Table 5 indicates, there were almost no voluntary registrations or inquiries through any public agencies except the Red Cross. And the Red Cross had far more inquiries than registrations. Despite public appeals for victims to register with the agency,¹² comparatively few people turned up, although the first week's total represented about 10% of the disaster victims. The 200 registrants of the first week included those in the first wave of applicants for long-term rehabilitation aid (there were another 250 in the next month). The preponderant role of the private channels of communication is quite clear.

Several points in these data are noteworthy. In terms of inquiries alone, the Red Cross was used in Flint about as much as private telegrams, but in Worcester, Western Union "inquiries" outnumbered those of the Red Cross by 6 to 1. Similarly, the Red Cross had over twice as many inquiries in Flint as in Worcester. Thus, the relative role of the Red Cross was about twice as important in Flint as in Worcester (for inquiries). The reasons for this are not clear. Possibly there were more extended family ties in Worcester than in Flint so that it was possible to reach victims' relatives privately without recourse to the Red Cross. On the other hand, there is nothing in the population trends of Flint and Worcester (up 7% and 5% respectively from 1940 to 1950) to suggest obviously different migration patterns and outside ties to family or friends left behind. The factors in the selection of these particular outlets may be further clarified in future research.

Table 5

CONSOLIDATED ESTIMATES OF "REGISTRATION" AND "INQUIRIES"
THROUGH PUBLIC AND PRIVATE CHANNELS IN FLINT

Private Media

<u>Day of Tornado Week</u>	<u>Outgoing "Registrations"</u>		<u>Incoming "Inquiries"</u>	
	<u>Toll Calls</u>	<u>Telegrams</u>	<u>Toll Calls</u>	<u>Telegrams</u>
1	14,500	4,000		3,400
2	13,900	3,500		3,300
3	16,200	1,700		1,100
4	15,000	900		500
5	14,200	?		?
6	11,400	?		?
	<u>90,200</u>	<u>10,100</u>	(90,000)*	<u>13,800</u>
Total Private:	<u>100,300</u>		<u>app. 100,000</u>	

Public Agencies

Red Cross	200 ^A	14,000 ^B
All Other	(50)*	--
Total Public:	<u>250</u>	<u>14,000</u>

* Estimate

A Total for five days

B Grand Total

On the basis of our data, however, the preference for private rather than public channels is quite clear, and we should not expect that formal agencies, taken together, would be used more than a fraction as often as private channels of information.

Medical Aid. A great deal of independent action was taken by various officials and agencies in an effort to assist the hospitals. This was done without consulting the hospitals involved and resulted not only in a duplication of effort, but in a severe aggravation of operating difficulties. This must be set in the perspective of the general medical situation.

When the tornado passed, survivors and volunteers in the area began the familiar rescue patterns, helping family members and neighbors first and then others. The injured were rushed off to the hospitals as quickly as possible in any available vehicle. There was no attempt to screen casualties before they reached the hospital and comparatively little first aid was administered in the field. Although there were some first-aid teams in the field during the night, there was little spontaneous convergence of doctors and nurses on the disaster zone. The basic process was simply an evacuation of the casualties. It has been estimated that perhaps as many as 75% of the injured were evacuated in about two hours by the spontaneous rescue operation.

Accurate casualty figures are not available. Perhaps the best estimate is that 900-1,000 people were taken to hospitals, and ultimately about 400 of them were hospitalized.¹³

The major medical problem developed from the concentration of casualties at the one public hospital in Flint. About 750 people, or 75-85% of the injured, were brought to Hurley Hospital and the remaining 150-250 were divided among four private hospitals in Flint and three hospitals in Saginaw, some 30 miles away. Casualties were brought to Hurley in a shuttle system which continued for five or six hours. For all practical purposes, the medical problem was confined to Hurley Hospital. Accordingly we will consider the events there, but not at the other hospitals.

The flood of unscreened victims that descended on Hurley quickly overflowed from the admitting rooms, soon filling up the parking lot and the spacious grounds. The routine emergency admitting procedure, adequate for normal loads, was overwhelmed and major bottlenecks immediately developed in processing patients. The operating theatres were working at capacity and a backlog of cases awaiting surgery accumulated in the corridors and especially in the admitting rooms, thereby holding up the examination and treatment of non-surgical patients. Although not all the people brought to the hospital were necessarily serious casualties, they all did require attention.

The hospital had relatively adequate staff from the beginning, with doctors and nurses arriving steadily during the night, and more were available if necessary. The main problem was to screen the patients, separating the superficial from the serious casualties and the surgical from the non-surgical cases, and setting up independent streams of treatment for different types of injuries.

The outside grounds were organized into a "receiving room" where doctors and interns classified patients into surgical and non-surgical cases. The former were routed into a separate surgical waiting pool which bypassed the admitting rooms and soon cleared these of the surgical backlog and the minor casualties. This freed the admitting rooms for the resumption of treatment of the serious non-surgical cases. Those with minor injuries who did not require hospitalization were given first aid outside and released without even reaching the admitting rooms. This system set up three sets of independent services which operated simultaneously in different places so that the pace or bottlenecks in one had no direct repercussions on the others.

The problems were attacked vigorously and effectively. The processing of patients went forward as rapidly as possible by this system. The worst bottlenecks first began to crack about 45 minutes after the tornado, and within an hour and a half the procedure was flowing smoothly and steadily, if slowly. Six operating rooms upstairs and the admitting rooms downstairs were working at capacity without interfering with one another and probably at the maximum rate that the medical problems and the sheer physical facilities would admit.

Other agencies lent a hand. The Red Cross furnished people to wash waiting patients¹⁴ and from time to time supplied Hurley with specific items (such as beds, tetanus serum to replace supplies which Hurley had sent to other local hospitals, etc.). The state police and the Red Cross helped Hurley to take a census of patients later in the night.

The administration of Hurley Hospital made a basic decision not to transfer waiting patients to other hospitals. Further movement of unscreened cases would have been dangerous. The doctors judged that once patients were deposited in the grounds, there were few principles by which to select patients for transfer without as much examination as was already involved in the screening. The mobilization of transportation would also have diverted the hospital staff from the ongoing screening and treatment. They judged that, in the last analysis, the disadvantages from their organization of transfers would quite possibly offset the net gains so that victims might not get treatment any sooner than if the Hurley staff handled them as efficiently and as quickly as possible. It is difficult to judge the accuracy of this decision, although it is important that it was made after a rational assessment of the factors and alternatives involved.

News of the congestion at Hurley Hospital gradually spread in the field. An hour or so after the tornado, the Flint police, state police, the Sheriff's men and others tried to divert the flow of patients elsewhere. Ambulances and cars were instructed by sound truck in the field, at checkpoints along the route, and by traffic direction to take their casualties to other hospitals. Police untangling the traffic snarl at Hurley an hour and a half after the tornado told returning drivers to make their next trip elsewhere. No road blocks were used to channel traffic.

These efforts to relieve the congestion were singularly unsuccessful. At the height of the struggle, the trip of several miles from the field

to Hurley took as long as two hours. This is in marked contrast to Worcester where, about an hour after the tornado, the main routes were well enough controlled to allow uninterrupted speeds of 50 miles an hour between the field and the hospitals (through the heart of Worcester).¹⁵

The rate at which casualties streamed from the field did not appreciably slacken for three hours and in the absence of a survey of the disaster scene, nobody had any idea just what the total casualty toll would ultimately be. There was growing concern about the mounting number of casualties and their concentration at Hurley Hospital. Consequently, several groups took separate action on the problem. As a result, in three to five hours after the tornado, three supplementary medical aid stations had been opened, and authorities tried to divert casualties to these.

One was a screening and aid station set up in the fire house near the disaster zone on the main road into Flint. This resulted from consultations between the City Manager and the Flint fire chief, both top Civil Defense officials, who felt that a screening station might help relieve Hurley of some of the burden. The fire station was staffed by a doctor and four nurses who gave first aid to about twenty minor casualties.

Another first-aid station was set up in the industrial plant at one end of the disaster zone. It was initiated by the state police in collaboration with private individuals. It was staffed by a doctor and about half a dozen nurses and nurses' aides. Other doctors looked in during the evening, but left because their services were not required. According to one report, about a dozen patients were seen.

The third station resulted from the telephone conference among the Flint mayor and police chief, top state police and Civil Defense officials in Lansing, and the Detroit police chief (the head of Detroit's Civil Defense). This culminated in the decision to convert an auditorium-arena in downtown Flint into an emergency hospital. This turned out to be a large enterprise. A Detroit specialist headed a staff reported at 150 people. Many doctors and nurses were brought in from Detroit; the balance was supplied by Flint. The hospital seems to have been a type of mobile field hospital whose major components were brought in a package and rapidly set up. Except for some beds and cots provided by Flint, the bulk of the equipment was brought from Detroit. The hospital was reputedly equipped to perform surgery.¹⁶ The local press reported that 15 casualties were screened at the auditorium and, after preliminary treatment, they were sent to local hospitals. A number of informants privately asserted that not one case was brought to the auditorium.

After the consultation which brought the mobile field hospital from Detroit, the state director of Civil Defense in Lansing took additional action to mobilize medical personnel for Flint. About four or five hours after the tornado, he contacted the University of Michigan Medical School in Ann Arbor. He told them that Flint needed medical help and asked them to send in a contingent of people. After a hurried consultation on this vague request, a group of nurses and

doctors with various specialities drove off in a caravan to Flint. They reached Flint in the middle of the night, about two hours after receiving the call and about six hours after the tornado. With no instructions or idea about where to go, they first went to the stricken area and found that they were not needed. Then they commenced to do the rounds of the Flint hospitals and found that doctors were not needed. When they reached Hurley Hospital, the surgeons were "washing up" after their work and the admitting room doctors were calling it a night. The nurses remained to help in Hurley and the doctors returned to Ann Arbor.

The hospital administration claims that a shortage of personnel was never a serious problem. There was a steady stream of nurses from many sources, including local plants, and they managed to keep pace with the need. Pools of other nurses and doctors were available. For example, an hour after the tornado, the Hurley administration phoned another Flint hospital where the county medical society was holding its monthly meeting. The society was told that additional doctors were not needed and that they should not come down to Hurley, but that they might wait on call at the meeting for another hour just as a precaution. In addition, Hurley was in contact all night long with hospitals throughout the state and their personnel and facilities were at Hurley's disposal.

But this perspective on the supply of doctors and nurses differed among various non-medical authorities. At least an hour before the state director of Civil Defense phoned Ann Arbor, some local groups were aware that there would be no shortage of medical people. Three hours after the tornado, state police in the Flint post informed the Red Cross that no more first-aid people were needed, and both agencies were sending volunteer nurses home with the request that they inquire again next day. The higher officials, however, did not have this perspective. They independently arranged to set up the auditorium-hospital, and afterwards the state director of Civil Defense not only phoned Ann Arbor, but also summoned help from several other major hospitals in the region. These arrangements were made without consulting the hospital authorities in Flint (or even those in Lansing) to learn what kind of help they needed or advised. The medical mobilization was not adjusted to local developments and thereby failed as a significant contribution to the medical problem.

Other independent action by lay officials proved to be extremely disruptive. A major problem developed over blood supplies, and this complicated the work at Hurley Hospital more than any other single factor. According to Hurley supervisors, the hospital had adequate stocks of blood on hand and many places could quickly supply more if a shortage threatened. Indeed, before morning, Hurley did order blood to replenish the stocks for future treatment, but there was plenty on hand for the night.

About an hour and a half after the tornado, when Hurley had broken the bottlenecks in its processing of patients, the Flint mayor stopped off at the hospital. He did not comprehend Hurley's system of screening and treatment. He was dismayed by the magnitude of the problems and what impressed him only as a spectacle of complete confusion. He hastened to his office convinced that Hurley needed help and would certainly need blood--although nobody on the staff suggested anything of the kind.

At about the same time, a staff physician at Hurley was talking by phone to a Red Cross volunteer. The word, "blood," somehow got into the conversation. The volunteer may have inquired about blood stocks or the doctor may have made some passing allusion to it. He was not anxious about the blood supply and certainly made no suggestion that any be collected. But the volunteer picked up the cue, "blood," and, like the mayor, concluded that Hurley would definitely need blood.

The mayor and the Red Cross volunteer then took identical action almost simultaneously. Without consulting or informing anybody, each phoned all the radio stations to have an immediate appeal made for blood donors at Hurley Hospital. So an urgent appeal was broadcast.

Meanwhile, at Hurley, the processing of patients was being untangled and the administration could turn its attention to other supporting services, such as opening the hospital pharmacy and laundry, starting a census of the injured, etc. They were quite unaware of the action of the mayor and the Red Cross volunteer. Without warning, about two hours after the tornado, while the hospital grounds were still full of casualties and with more arriving steadily, Hurley was suddenly deluged with blood donors. Within half an hour, 2,000 people appeared, clamoring to give their blood.

The hospital tried to service the blood donors. It assembled one bleeding team (in itself direct evidence of the adequacy of its staff) which began to draw blood. It called on the Red Cross for additional bleeding teams and two were sent. Hurley phoned the radio stations to have the blood appeals cancelled and announcements were made that plenty of donors were on hand and no more were needed. Finally, when the crowd of donors was brought into some semblance of order, the administration transferred the bleeding service from the hospital itself to the nurses' residence across the street. This took waiting donors off the hospital grounds and helped to relieve some of the acute congestion. The bleeding went on for the better part of the night and everybody who was willing to wait was bled. The administration estimated that about three-fourths of the original donors eventually got tired of waiting and gradually melted away during the night. The three bleeding teams collected about 600 pints of blood.

The entire incident proved extremely disruptive in Hurley's effort to cope with its problems. The treatment of casualties had to continue without delay while the aggravated congestion and the arrangements for bleeding were being handled. It illustrates further the potentially far-reaching effects of initiative exercised by strategically-located individuals, regardless of whether their responsibility is great or small.

While the blood donation affected the hospital, a further lack of integration in medical aid had repercussions on the Red Cross. Hurley Hospital was equipped with almost everything it needed, but the number of casualties placed a strain on three items: Stretchers, beds and blankets. The hospital had only 50 extra cots in reserve. The Red Cross had several hundred cots and beds stored at headquarters, as well as blankets, bedding and stretchers. When the casualties began to arrive at the hospital and again several hours later, Hurley phoned the Red Cross for these items, and each time they were delivered within 15 or 20 minutes. The hospital also called the radio stations to have a public appeal made for cots and blankets, and this was broadcast on several occasions during the evening. In view of the volume of Red Cross supplies, a public request for contributions was unnecessary, although Hurley Hospital obviously did not appreciate this.

It will be recalled that the Salvation Army and the mayor had also made public appeals for beds and bedding in connection with emergency shelters which they opened. The public response from individuals, organizations, businesses, plants, unions, and social agencies was prompt and the hospital's needs were met with little trouble. Ultimately about 250-350 beds and cots were contributed, but not many of these were brought to the hospital itself. Many were sent to the disaster zone and many were delivered to the Red Cross. The mounting contributions of beds and bedding created serious congestion at the Red Cross chapter, both from the bulk of the articles and from the vehicles delivering them. With a storehouse of bedding on hand, the contributions to the Red Cross were literally like bringing coals to Newcastle. The crowning irony finally occurred almost three hours after the tornado. A Red Cross volunteer surveyed the growing pile of bedding donations with dismay and concluded that the Red Cross must desperately need beds. Without consulting anybody, she included beds in a list of items to be broadcast in a public appeal. Obviously, this only aggravated the situation.

Thus, the Red Cross suffered from public appeals for items which it had in ample supply. The requests were independently initiated by its own volunteer worker, the mayor, the Salvation Army and Hurley Hospital. While the agency was in direct contact with those responsible, nobody informed the Red Cross or checked to see whether public contributions were actually necessary.

The medical aftermath of the tornado showed that, of the 300 casualties hospitalized at Hurley the first night, about one half were discharged within 36 hours. Those who remained longer were all accommodated in regular hospital beds, so that none had to put up with cots. Five days after the tornado, about 100 disaster victims were still in Hurley Hospital. The Red Cross furnished significant services for

the care of the injured. The morning after the tornado, it began to provide extra nurses whom it had recruited to supplement the Hurley nursing staff. The organization maintained regularly scheduled shifts of these extra nurses for several weeks until Hurley could comfortably handle the remaining load.

The social services in Flint are rich in qualitative materials, and their implications for future research can be summarized briefly. When there are two exclusive authority systems, as in Flint and Beecher, separate systems of service develop. When no formal authority is conferred over services, the "clients" define the leadership system by their support (within the limits set by the resources of the organization). This may effectively meet the goals of service without any formal authority.

Flint social services represent the case par excellence of many actors working with private definitions. With minor exceptions, action was taken independently without reference to the groups who might have been concerned. This showed a failure of communications within organizations and between officials or agencies. For example, medical assistance was mobilized by high officials who had a less accurate estimate of objective needs than specialists. Similarly, the people who appealed for blood and bedding did not know that the Red Cross had sizable stocks of both on hand and that chapter supervisors had arranged for extra blood to be delivered from Detroit and Lansing. Thus, there was a failure to capitalize on knowledge and information which were easily available. Great effort was devoted to mobilize resources that were already in the system. Similarly, there was a failure to capitalize on special competence and judgment, particularly in medical assistance. Officials mobilized help without finding out what help the Hurley authorities themselves needed or might have suggested. The people with the superior information or qualification were not consulted because, for the matter in hand, they were not significant figures to those who were taking action.

The independent action was extremely disruptive for others and ineffective because attention was diverted from other realistic possibilities. For example, aside from setting up medical stations, Flint's other hospitals might have been intensively used through a more vigorous direction of traffic (via road blocks, escorted convoys, etc.) or by the police organizing transportation for a patient transfer system for Hurley in consultation with the administration. But, because relevant people were not consulted, the alternative solutions were not pursued.

The effects of strategically-located people underscore not only the role of the eager, but inexperienced volunteer, but also a form of symbolic participation by public officials. All public groups are under pressure to act instrumentally or take direct problem-solving measures. But prominent officials are also under additional pressure to act expressively and publicly to demonstrate their concern and responsible involvement. For example, the Flint mayor and city manager both made broadcasts to the people on tornado night. This expressive dimension may also be woven together with problem-solving action. A clear illustration is given by the state director of Civil Defense. After mobilizing medical personnel, he telephoned the main radio stations in Flint to inform them he was sending help from Ann Arbor,

Detroit, and other cities. The radio stations had no operational significance in this matter, but they simply publicized his participation. The Flint mayor's action about housing and blood may also have contained this expressive dimension. Symbolic participation may become disruptive in operations when there is: (a) Pressure to act independently of others; (b) concern for personal prestige; or (c) competition between agencies or officials. But symbolic action and operational effectiveness are not always highly correlated.

The failure to divert patients from Hurley Hospital shows the formidable power of familiar institutions in guiding action. At the height of the shuttle system, the trip from the field to the hospital took up to two hours. Yet Hurley was by no means the closest hospital or the most easily accessible from the field. Of the others, one was two blocks from Hurley. Another which was much closer to the disaster zone and only two blocks off the main road almost had to be passed en route to Hurley. Furthermore, the main highway and the parallel streets on the Hurley side of this road were jammed. But parallel streets on the other side of the major road were clear, and fast times were possible down these streets. Why, then, did ambulance drivers and other people persist in jamming traffic in order to reach Hurley and neglect the other hospitals?

Hurley Hospital occupied a prominent place in popular awareness. It was a municipal institution and the only public hospital in Flint. It was a modern, well-ordered establishment of 450 beds, with more than twice the capacity of the next largest hospital. It was also the only emergency hospital in the city, and all accident cases were brought there, but not elsewhere. People were generally proud of the hospital as a community facility and it was the salient hospital not only to ambulance drivers and police, but also to the general public. When people thought of hospitals, they normally thought first of Hurley. Consequently, despite the congestion and delay, the other hospitals were virtually ignored and the overwhelming bulk of the casualties was brought to Hurley. It is more significant that other hospitals were ignored than that they were available. The well-worn paths of familiarity directed behavior so long as the goal (Hurley Hospital) was not impossible to reach.

That familiar institutions have a formidable power to channelize emergency action is confirmed by perhaps the most singular datum in the entire study. Ambulances came to the disaster area from hospitals in Saginaw, over thirty miles to the north. For their drivers, the Saginaw hospitals rather than Hurley were familiar and salient. Consequently, when these ambulance drivers picked up their casualties, they did not drive five miles south into Flint, but spontaneously turned around and rushed back over thirty miles away to the Saginaw hospitals which were salient to them. On its face, this may seem like an extraordinary action, although it is comprehensible in terms of our analysis. There is no evidence that their decision was rationally calculated. If they rejected Hurley because of the congestion there, other Flint hospitals were near at hand and accessible. If they rejected the other Flint hospitals because of traffic, there were still other hospitals which were closer than Saginaw. But there is no evidence that any of these alternatives were considered. Their action in rushing back to

Saginaw was actually identical to what the Flint people were doing: They spontaneously turned to the most salient institutions and simply followed the most familiar behavior patterns with a compelling sense of urgency.

FOOTNOTES

1. Of the four mutual-aid fire houses, Beecher's and one at Mt. Morris were hit by the tornado.

2. This reflects the social determinates of communications that so frequently get lost in the "gadgeteering" approach. The most common panacea for communications failures is to add equipment, and heated controversies arise over the respective virtues of radio vs. telephone or multifrequency vs. single-frequency communications channels. The neglect of social orientations (or reference groups) in communications makes gadgets and electronics chimerical solutions. This perspective is similar to an effort to improve literature by providing writers with new electric typewriters or to assure objective perception by correcting everybody's vision to 20-20. These are necessary but not sufficient conditions that can help only in extreme cases. Now, clearly, one cannot make a telephone call without a phone or expect a sparrow to know the business of a homing pidgeon. But, equipment can only make communications possible; it does not determine how it will be used. For these determinates, we must examine the bonds in a social system and ask who becomes relevant to whom under what conditions. These orientations often overcome technical limitations and keep communications flowing.

For example, a police car reached Beecher from Pontiac, about 35 miles away. The men had to find out and inform a Pontiac hospital whether a particular medical instrument should be sent to Flint. The radio transmitter of the Pontiac police car was too weak to reach its headquarters directly. Therefore, the message was sent to the Pontiac hospital over the following circuit: Pontiac police (verbal) to volunteer fire truck (radio) to the mutual-aid association "control center" (phone) to Flint police headquarters (phone) to Pontiac police (phone) to Pontiac hospital (phone). Instead of a two-step radio-phone link from the police car to its Pontiac headquarters to the hospital, there was a six-link circuit which took three minutes instead of one. But the message was passed with little fuss, and the technical inconvenience was no significant obstacle.

3. This is the social crux of communication which no amount of technical equipment can correct. The Red Cross chairman later learned quite accidentally from somebody who had been there that the drive-in theater was a "blind alley." This was over an hour and a half after the state police finally realized their error.

4. This was one of the two advance units sent out by Detroit police chief.

5. Some incidental problems did arise. Since county budgets are not geared to cope with disasters of this magnitude, the Genessee County coroner refused to authorize the expense of autopsies on his own responsibility. His flat refusal is the only instance in the entire study in which financial considerations actually delayed any operation. The ranking state police corporal at the morgue contacted the state police captain. He spoke with the Genessee County prosecuting attorney who authorized the expenditure.

According to another state policeman at the morgue, another difficulty also arose:

Later on, frictions developed among the morticians. They began comparing the number of bodies they had, and some felt that others had used undue influence upon relatives to get bodies.

6. This is subject to occasional imperfections, as we have seen in the conflict between the Sheriff and the state police over jurisdiction in Genessee County. For a general treatment of state police see Preiss and Ehrlich, 1966.

7. Some respondents thought that primary responsibility and legal jurisdiction belonged to the Sheriff, and a good case might have been made for this position. The state police might have made an equally good counter-claim. The sheer possibility of dispute simply documents the ambiguity of the situation.

8. We are momentarily concerned with the institutional properties of the police position and the assumptions on which it is predicated rather than with the informal value systems which usually arise in police groups.

9. The looting by the two Detroit policemen became a scandal precisely because it violated this public confidence. Similarly, there was no public acknowledgement of the Sheriff's inactivity. Although everybody in public life knew that the Sheriff's office made only a token gesture of participation, this could not be publicly admitted. An elaborate testimonial to his staff was included in a series of feature stories on disaster agencies in the Flint press. This could not be omitted without risking embarrassing public curiosity, and a story was built up on the theme, "Sheriff's Office Gets Fast Start."

10. By one convention, officials classify as "severely damaged" any structure arbitrarily appraised as "70%" damaged."

11. There was complete confusion that night about the number of homes affected and the number of persons without housing. Although some early estimates ran twice as high as the actual figures, officials tended to under-estimate the number of homeless by one half on tornado night.

12. There was an unforeseen response to these announcements which, according to the Red Cross director, delayed registration for about two days. The major response was not from registrants, but from people offering to adopt children orphaned by the tornado.

13. There were somewhat over 100 people killed in the tornado, but only one person who reached hospital care died in the month following the disaster.

14. Many of the injured were black from dirt which the tornado had ground into their skin. There were several cases of mothers who failed to recognize their own children.

15. This speed may have aggravated or resulted in states of shock. But jammed traffic (which delays treatment and may also induce secondary trauma) is no solution of this problem.

16. Informant reports on this hospital are probably inaccurate, especially in regard to its facilities and the services which it was equipped to provide. The report on the Dutch floods cites the smallest mobile field hospital prepared to handle emergency surgery in the U.S. Army. This unit, with a completely self-sufficient organization of personnel, equipment, supplies and transportation, consists of a sixty-bed hospital. "This hospital can be put on the road in two and a half hours, and set up in four hours of reaching its destination"(Courtney et-al., 1953: 27). On this basis, the Flint auditorium-hospital was probably closer to a dispensary than a surgical hospital because, from all indications, the unit from Detroit was prepared to receive patients in Flint about five hours after the tornado.

Chapter VII

SUMMARY AND CONCLUSIONS

The unifying thread in most of our data is that emergency intensifies people's normal definitions and values, their established responses, and the salience of familiar reference groups and institutions. These customary frames of reference guide conceptions and behavior in emergency. The normal authority system thereby becomes a foundation for the crisis-structure. Disaster needs are perceived essentially in terms of normal-roles. Thus, there is some continuity from normal to crisis situations. But there is no simple correspondence between their authority structures.

The continuities between normal and crisis systems involve the same methodological problems that frustrate successful prediction elsewhere in the social sciences. Despite clear continuities, it is difficult to predict emergency authority by simple extrapolation from the normal system. A particular variable (such as responsibility) may give rise to different crisis structures as immediate conditions vary or as it interacts with other forces in the situation. It may also be affected by intervening factors which may predispose toward one kind of adjustment (viz., waiving conventional norms) as opposed to another (viz., observing conventional norms). For example, under stress, tensions between rival agencies can either erupt into open conflict (viz., the Worcester Red Cross and Civil Defense) or be controlled through avoidance and independent operation (viz., Worcester police and Civil Defense). In such cases, only the immediate group relations are apparent as well as the different resolutions of conflict. Yet the conflicts themselves may have similar roots, even though they are accommodated differently. Despite the similarity of causes, they are resolved according to a variety of intervening variables, some situational. Prediction commonly occurs with incomplete advance information, either about any specific normal system, about the immediate "triggering" conditions, or about the intervening variables. Consequently, we cannot accurately foretell the final adjustments or the form of a specific emergency authority system that will emerge. A low "predictive score" may indicate that our major variables are faulty or, perhaps more often, that we lack crucial data on them. This does not, however, reduce the principle of continuity to a sheer ad hoc explanation.

The basic problem then is how the properties of the normal system shape the emergency system. Aside from the question of the effectiveness of disaster leadership, the general issue consists of two parts: (1) Who spontaneously assumes what authority? (2) How is that authority established and legitimized? We will consider them in order.

Who Assumes Authority? It will be recalled that the distribution of authority in the normal community varies according to scope of responsibility held. This can be ranked in a hierarchy of three levels. At the bottom are the service specialists in medicine, social services, and technical operating departments (viz., transportation, public works). They have specific, restricted responsibility which can be fairly accurately designated. In the middle are the police with flexible, community-wide control functions and fairly vague limits of responsibility. At the top

are the political officials with the most diffuse spheres of legitimate concern and responsibility.

In disaster, the specialists assume authority over their specific spheres of competence but never presume to speak authoritatively for the stricken zones or for the larger community. The police immediately assume direct authority in the field where the disruption is usually regarded as their legitimate concern. Sometimes they also extend their authority into specific technical specialties. But they seldom assume complete community authority outside the field. This comprehensive responsibility is the prerogative only of the highest political officials. On occasion, these officials also extend their authority into the disaster zones and even into narrow technical specialties.

Thus, in emergency, the different functional spheres become sharply stratified. The scope of possible authority on any one level may encompass that on lower levels. The potential, therefore, exists for authority to be extended downward and for lower functions to be taken over directly. But the actual displacement of lower authorities is fairly infrequent, and it becomes conspicuous when it does occur. There is no tendency for authority to be extended upward to take over the more comprehensive prerogatives on a higher level.

Emergency functions, then, are related to conventional roles; the hierarchy of normal responsibility fixes the upper limit on the range of authority assumed in disaster. Although some discrepancies occur, the sphere of emergency action generally corresponds to what might be expected from somebody's position in the normal system. This is the overall pattern.

How Is Authority Established and Legitimized? Authority tends to be distributed with greater spontaneous agreement when emergency functions are specific and responsibility narrows. But agreement decreases as functions become diffuse and responsibility broad. The normal roles with wide responsibility and ambiguous guides to appropriate action are the ones most likely to be involved in authority conflicts.

Authority is distributed somewhat differently between people on different levels of the hierarchy, between superiors and subordinates on the same level, and between peers on the same level.

Between groups or officials on different levels, the normal authority, power, and responsibility of the higher placed person tend to prevail. When pressed, conflicts between officials and others (police or specialists) are resolved along straight superior-subordinate lines in favor of the officials. Police and specialists are normally not in a hierarchical relationship. But when police intervene in specialized functions, their authority usually predominates, mainly because of the flexible range of their responsibility. Its limits are ambiguous only in their relations laterally and downward. It is evidently quite clear that police are not to encroach upon higher policy and executive prerogatives so long as officials are functioning.

Further, normal superior-subordinate authority also prevails within any functional sphere or hierarchical level. The superior may allow

subordinates a maximum of independence, but thus authority is delegated and exercised strictly subject to the discretion and initiative of the superior. In every instance in the present study, subordinates (even those with virtual *carte blanche*, as the Holden Civil Defense director) acknowledge the legitimate authority of their direct superiors. Thus, the locus of authority within spheres follows normal hierarchical lines, even as it does between levels. If there is an insistence on normal prerogatives, authority is thereby distributed accordingly.

Conflicts between those with higher formal responsibility and specialists with superior competence on lower levels reveal tensions between hierarchical values and humanitarian or anti-bureaucratic values. When somebody with responsibility dominates another who has competence, this testifies to organizational discipline. But it invariably indicates that the dominance is predicated upon the continued relations of the actors. In the moderation of conflict, the deference of the subordinate, therefore, safeguards this future relationship. When this takes precedence over the pressures of the temporary disaster, it protects the subordinate's long-range security or career goals. Thus, when they are in conflict, future considerations tend to prevail over immediate disaster stresses. In our data, however, this choice was seldom subject to the acid test of drastically different sets of operating consequences.

In the relations between local and outside groups, the factor of community embeddedness is significant. In our data, the outside agencies whose competence was not superior to that of local groups tended to come from neighboring communities; outside agencies of definitely superior competence often represented jurisdictions above a community level. While the outside community groups usually did defer to local authorities, it is unclear whether this reflected their community roots or their lack of superior qualification. The outside non-community organizations did tend to be more qualified. Thus, their non-deference to local authorities could be a function of either their greater competence or non-community representation, for these factors tended to vary together.

The present data cannot discriminate between these variables clearly, but they are encouraging to the community embeddedness hypothesis. It can be tested in future research by relating outsiders' deference with a typology based on their community representation and their relative competence vis-a-vis local agencies. This would clarify the effects of the two variables on the role of outside groups. When there is a clear local authority in our data, the following illustrative patterns of deference appear:

Place	Outside Agency	Community Group	Outsiders' Competence	Outsiders' Deference
Shrewsbury	Worcester Militia	Yes	Superior	Yes
Modal				
Pattern	Many	Yes	Not Superior	Yes
Holden	State Police	No	Superior	No
Shrewsbury	A.A.F. Unit	No	Not Superior	No

If these trends were to be found with regularity in other disasters, then community embeddedness rather than competence would clearly determine outsiders' deference to local groups.

The present data are no more than suggestive because not enough pure types are available. The only outside agency with high community embeddedness and clearly superior qualification was the Worcester militia in Shrewsbury. The imponderables make this case inconclusive. The militia's superior competence is arbitrarily designated on the basis of its manpower and equipment. We do not know the relative weight to assign to the sheer leadership qualities of the police chief and the militia commander when we try to throw these onto the balance. Nor can we weight the influence of the personal acquaintance of the commander and the field chief. Other cases are equally contaminated by other variables. For example, the state police in Holden might be regarded as a quasi-local group, because of the Holden post, or at least not a clear-cut outside group. But a sufficient number of pure cases would settle the issue.

The conspicuous role of outside agencies warrants careful isolation of the variables that govern their relations with local authorities. So far we have seen that:

1. Normal hierarchical authority prevails within and between functional levels.
2. Future hierarchical relations may take precedence over disaster considerations.
3. Police can exert authority over specialists on the strength of their vague sphere of responsibility.
4. Although local jurisdiction seems important, the basis of local-outside adjustments is still indeterminate.

We can now turn to consider the relationships between peers on the same level or in the same sphere. This is especially problematic for the specialists because the relations of officials or police are largely regulated by hierarchical guides, stratified responsibility, or local jurisdiction. But hierarchical principles are less relevant to the relations between specialist groups and leave a great area of indeterminacy. The problem of consensus becomes paramount when there are no clear principles for the allocation of authority among conflicting peers. Presumably, sheer competence would become the most appropriate authority determinate, but this only raises the deferred problem of the criteria of qualification in disaster.

Criteria of Competence. The clearest criteria of competence come from established professional standards of journeymen skills which apply to technical specialties. As the specialty becomes less technical (viz., some social services), other principles are increasingly emphasized, both in the field and outside.

These criteria of competence cluster around several major factors: (1) Organizational size and resources. Organizations regard a large regular staff and large body of facilities and equipment as qualifying resources. The organization is a going concern with a stable base, and its people are accustomed to working together. It has a distinct identity in the minds of its personnel and may often be readily identified by others. Competence is further distinguished by (2) an organization's

professional or amateur status. In any given function, organizations regard technical training of personnel and routine, full-time occupational experience as more qualifying than little training and part-time, non-occupational experience as more qualifying than little training and part-time, non-occupational experience. While this refers strictly to amount of experience, it distinguishes organizations with technical expertise from those without. A further criterion is (3) type of experience. This places a premium on the routine handling of unexpected, preferably diversified situations which require decisive action. This is exemplified in the sentiment, "Emergency and trouble are our business." Finally, special evidence of competence is assumed to inhere in (4) tradition. Presumably, a long history institutionalizes an agency's experience and assures its qualification.

These criteria enhance prestige and reputation. A claimant of authority feels his competence substantiated by the number of grounds on which his claim implicitly rests. This may only intensify the problem of consensus, however, because disputing parties may attach different importance to the respective criteria. This poses the problem of weighting the factors objectively, but there is as yet no clear basis for this. In the absence of objective weights, we would impressionistically rate organizational size and professional identity as the more important criteria, followed by emergency experience and tradition. In general, this seemed to be their relative power in the division of authority between peers in the present disasters. But this is only tentative, for conflicting parties did not necessarily see eye to eye on the relative value of these legitimizing factors.

These criteria, incidentally, account for the conspicuous role of the police on grounds aside from the vague limits of their responsibility. Typically, the major forces can claim disaster competence on all four criteria: Large organization, professional experience, tradition, and dealing actively with assorted disorders. Their claims were expressed in the judgment, "That was a police job out there," and reinforced by such symbols as their uniforms and weapons.¹ Political officials did not always share the common feeling that the police were necessarily the proper, exclusive field authorities. They did not regard this authority as indivisible, nor as mutually exclusive with political office. But they could not claim leadership simply on the basis of the four criteria which we have discussed. Consequently, their participation in field leadership was implicitly based solely on the criterion of responsibility. This involves no simple conflict between people or between roles, but between legitimizing values as well. We will presently amplify this in another connection.

The lack of consensus underscores the conditions under which conflict may persist. Two kinds of conflict have solidary goals. The first arises from the urgency of victims' needs. So many things have to be done that procedural norms are waived. To paraphrase the policeman, one does not worry about who is responsible for getting a house off a man's back. These two conflicts typify the independent operation that characterizes the early stage of disaster. They may be sorted out when there is a primary commitment to collective welfare. The conflict can then be classified and some integration can emerge from disorder.

Non-Solidary Conflicts. But not all conflicts develop with a first concern with common welfare. Some are not intended to disrupt collective effort and integration, but they have this effect because of a primary concern for private norms or non-communal goals. There are at least three sources of non-cohesive conflict. These involve: (1) Non-solidary ends, (2) symbolic participation, and (3) salient reference groups. We will consider them in order.

Non-Solidary Ends. The disaster provides an opportunity to achieve ends beyond those related to the immediate emergency. It releases open struggles for power, prestige, and status which take precedence over collective goals. These usually represent conflicts smoldering in the normal system which are intensified or erupt during crisis. Private vendettas, rivalries, competition, and norms of aggrandizement persist in some circles and relegate collective goals to secondary importance. They testify that solidarity in the community and the authority system is by no means pervasive.

The possible dysfunctional effects of these conflicts are usually clear: disruptive rivalries, deflection of energy from disaster needs to competitive goals, non-cooperation in the use of resources and the rendering of services. But the consequences are not solely dysfunctional. Some conflicts for power or prestige may clear the air and clarify an ambiguous authority system. (Kreps and Wenger, 1973: 158-174; Quarantelli and Dynes, 1976). Different assumptions about the proper locus of authority may be threshed out to yield not only acrimony and long-range cleavages, but also greater consensus and stability.

The predominance of private over communal interests seems to be associated with amateur groups or local affiliates of national organizations. In our data, the amateur agencies showed the greatest open concern for public recognition and rewards. Professional groups, in contrast, seemed less concerned with these and more satisfied to remain anonymous--as judged from respondents' spontaneous mention of prestige themes. The pursuit of rewards and recognition creates a high propensity for collision and rivalry between groups. This propensity is increased when it involves non-technical specialists of similar competence in the same functional sphere. It is also increased when old, established organizations may be threatened by relatively new groups.

The apparent relationship between amateur groups and status conflicts is subject, of course, to further check, but it corresponds with other evidence. The connection between status aspirations and voluntary associations has been documented in a steadily growing body of research. (Smith, Reddy and Baldwin, 1972; Smith, 1973). On this basis, we might well expect a selective recruitment of status--and prestige-oriented people into many charitable and service organizations which become prominent as emergency welfare groups. To the extent that these agencies are composed of such self-selected members, participation can easily assume competitive forms because the emergency provides such a golden opportunity to gratify prestige motives. On the other hand, the communal solidarity displayed by the Holden Red Cross and Civil Defense indicates that the entire problem is too complex to be taken for granted. The connections between social participation and community integration are still too unclear to

permit an unqualified acceptance of the relationship. We would generally expect the relationship to be strongest in large urban centers and in new suburbs.

Symbolic Participation. Although most of the participation in disaster was highly anonymous, public officials were denied this anonymity. Much of their role was played out, as it were, on a public stage. The special pressure on political officials touched off a symbolic dimension over and above the instrumental action to solve disaster problems.

The symbolic component had two aspects. The first was the officials' expression of sentiments on behalf of the community: commiseration with victims, visits to hospitals and other centers, public reports on the disaster situation, expressions of shock and sorrow, inspection of the stricken zones, progress reports on welfare programs or rehabilitation plans, proposals for tax abatement and similar financial relief for victims. These were expressions of solidarity directed to the entire community.

Typically, such symbolic action was taken by the officials personally; it was performed in a highly visible, public manner; it was aimed at the sentiments of the community. Thus, action was not delegated, the official was not insulated from public contact, and the main concern was with public reassurance and the expression of feeling rather than public information or effective problem-solving.

This expressive part of symbolic action was only incidental to problem-solving. But the second part was integral to it and arose from the highly ego-involving pressures of official responsibility. Officials' direct instrumental actions had to display an appreciation of their unusual responsibility and an adequate fulfillment of their roles. They had to demonstrate by vigorous, resourceful leadership that they could meet their special obligations and thereby warranted the public confidence vested in them. To the extent that high offices were laden with community responsibility, officials felt the need to be active and to show that they could rise above routine performance when group welfare was threatened. In other words, the man felt the need to measure up to the demands of the office.

This participation concerned the symbol of leadership which the official presumably embodied. It was oriented not only to the community at large, but also to other authorities. Their evaluation of the official's leadership capacity could be based on action which he took privately, within the disaster apparatus, as well as that taken publicly. Officials were acutely aware of the impression that they might create as leaders. They felt the performance pressures as keen personal demands precisely because they had little opportunity to share their individual responsibility. Their prominence as public figures gave them an individual identity which was not obscured by an organization. Those within organizations were fairly anonymous and could be concerned mainly with work criteria, but officials were under greater pressure to take added account of sheer leadership which they might provide.

This had a profound effect on the responsibility-competence conflict. Specialized agencies or groups with relatively equal competence were, to some extent, interchangeable. If one organization did not discharge a leadership function or was delinquent in other respects, there were substitutes available. The unit of competence was the organization. But the responsibility of political officials could not be shared. The unit of responsibility was the office and specifically its incumbent. Where competence (or incompetence) could remain relatively anonymous, the responsibility of officials carried a fixed identity. And this pressure was one source of political officials' activity in the field, despite their lack of special disaster qualification.

We must, however, distinguish between participation which was symbolic in its effects, but not in its intent, and that which was symbolic in both. Consciously symbolic participation was more conspicuous among political officials and some social service agencies than among other groups. Symbolic participation must not be oversimplified and confused with empty ritual, cynical token gestures, stereotyped public relations, or political opportunism. It is a complex phenomenon which is related to community solidarity and straight disaster operations as well as private ego-involvements. As a conscious demonstration of leadership or contribution to the emergency effort, it expresses a concern with much more than sheer disaster control.

There were numerous instances of symbolic participation, among officials and others. In each tornado, the Governor and U.S. Senators made personal inspection tours of the stricken zones on the night of the disaster or the following day and they took immediate steps to expedite Federal aid. Lesser officials also made personal appearances. Those who could not come themselves sent messages of strong apology and sympathy. On the night of the disaster, Worcester and Flint radio stations broadcast talks by the mayors and other officials. In Worcester, a radio interview with the head of Red Cross outlined the agency's disaster activities. In Holden, the disaster newsletter expressed officials' concern and gave detailed accounts of their activities and plans. Perhaps the purest case in the data is the state Civil Defense director's notification of the Flint radio stations that he had recruited doctors from Ann Arbor. A straight operational action was publicized in order to demonstrate the activity of an official.

Symbolic action can be functional or dysfunctional. Most of these illustrations were solidary. But some were not. For example, the Sheriff's token participation in Beecher actually concealed the group's withdrawal. Other actions were ill-advised and disruptive, however unintended and well-meant. The Flint mayor's recruitment of blood donors for Hurley Hospital only contributed to the disorder and confusion. Numerous other disruptions arose from an eager desire to be helpful, to fulfill role responsibilities visibly, and to allay personal anxieties. There were strong pressures to act, and they increased initiative and decisiveness. But they also stimulated anxious people to make private decisions and to operate independently of others, including qualified counselors. Such action often feeds on itself, increasing actors' isolation from channels of information and communication. Beyond a certain point, initiative

may pass through stages of independence, isolation, and disruption. This hazard is particularly latent in symbolic action.

Some officials restrained the pressure to act with little reflection. The mayor of Holden avoided gratuitous gestures of leadership in favor of a supportive role. Similarly, in order to avoid congestion, the Flint fire chief showed an atypical restraint in keeping massive fire equipment out of the field until it was needed. Such cases illustrate another reaction to pressures of public responsibility. The actions were determined by operational considerations rather than symbolic leadership or anxiety and were the obverse of symbolic participation.

Salient Reference Groups. The third source of conflict involved a set of special groups rather than the larger disaster system. Their members' orientations followed primary allegiances or antipathies and focused their sense of solidarity not on the community, but onto smaller cohesive elements. Discriminating perception is not always divisive. The common acknowledgement of superior police authority in the field, for example, expressed consensus and common definitions in the division of labor. But selective perception may be divisive when it is governed by sub-group values.

The selective orientation to others belongs to reference group behavior. The reference group and one's relation to it regulate consciousness and organize action. It looms large (or has high salience) because the norms and judgments of the group are particularly important for the actor. It may also be important because of its power, qualification, resources, information, or significance for operating (or other) goals. The group may have a positive, neutral, or negative value for the actor. It can, therefore, influence his behavior without necessarily implying his identification with it and acceptance of its norms. In this sense, the state police in Flint were a strong negative reference group for the Sheriff and were probably a major influence on his staff's withdrawal. The actor perceives and structures the situation according to his reference groups and their meaning to him. Since different groups do not have equivalent importance for any one actor or for any single goal, they are arrayed in a hierarchy of relative visibility or significance. The most important ones become the most conspicuous. The hierarchy outlines the probable orientations and his channels of interaction, avoidance, communication, and influence.²

Authority groups show a markedly selective orientation to others during disaster. Reference groups are a function of several dimensions which locate significant others and probably identify the most fundamental linkages in the normal system. The more important reference group variables are: (1) Community membership, (2) organizational affiliation, (3) official status, (4) occupational identity, and (5) informal influence. We can review them briefly.

(1) The community dimension is epitomized in the relationship of outside agencies to local groups. Local authorities were apparently the most significant for those outsiders who themselves represented local communities. Outside groups representing higher jurisdictions were the most likely to bypass or ignore local authorities. This was most conspicuous among Federal, State, and large metropolitan agencies which

entered small towns. These groups may have taken their own superior competence for granted, but evidently there was little deliberate appraisal of relative competence. The large outside agencies simply did not think much about local authorities because they were apparently not significant figures. Those representing higher or larger jurisdictions presumably accept this factor as a legitimizing principle exempting them from the authority of small localities.

There are few clear patterns in local views of outsiders beyond a dependency on large organizations, especially police groups. But local people are more positively oriented to those outsiders with whom they have some prior identification. In Holden and Flint, for example, local groups preferred to work with men of the local state police posts rather than with outside state police. Similarly, local people distinguished between outsiders who were members of their mutual-aid association and similar groups who did not belong.

(2) This touches upon the second major orienting principle, organizational affiliation. Members of the same organization (such as the Red Cross or Civil Defense) took each other as primary points of reference. For example, national Red Cross officials took over the direction of local operations according to standard procedures of the organization, while outside Civil Defense higher-ups served as advisors or observers for the local agency. Although some organizations displayed an extremely sharp distinction in the power, prestige, and authority of local and higher levels, the organization itself was salient for its members on all levels. The primary consideration was the identity and integrity of the organization as such. The importance of organizational membership as an orienting principle increased among amateur groups, among agencies in a fairly open competitive position, or where membership was a vehicle for people's status aspirations. The prominence of the membership group then blotted out awareness of others (except competitors) and reduced the number of operating groups significant to them. Thus, in Worcester, the Red Cross and Civil Defense simply eclipsed other agencies in the perspectives of the Red Cross. Or Worcester Civil Defense members had such an image of the agency that the headquarters operated with little outside contact or check on its procedures.

(3) A third orientation followed official statuses. Reference groups reflected the hierarchy of direct authority which has been our model of the emergency structure. This applied within and between levels. Within levels, political officials were salient for officials, police for police, and specialists for specialists. Between levels, groups were rather more negatively than positively oriented to those on higher levels. Where there were no direct superior-subordinate relations, those on higher levels tended to be ignored or avoided. On the whole, police tended to avoid political officials more than specialists avoided either.

(4) To a great extent, the perspectives between positions on different levels reflected perhaps the strongest single orienting principle, occupational identity. Occupational groups were usually the most salient of all, transcending in force community membership, official statuses, and even organizational affiliation whenever agencies were not occupationally homogenous. (The social service and operating divisions of the Worcester Civil Defense, for example, functioned virtually as separate

organizations.) Doctors and nurses looked first to hospitals for orientation, and hospitals relied on each other for help before looking to non-medical groups such as police, officials, or social service agencies responsible for medical assistance. By the same token, very refined occupational orientations could be observed. Sheriffs offered help to other sheriffs before offering it to police; fire chiefs solicited help from other fire departments; HAM radio operators worked with other HAMS; police considered other police before "civilian" agencies; newspaper people looked to other journalists; mayors to mayors before other political executives; public works people to their counterparts; clergymen to church groups; the utility companies to one another (even consolidating repair work by zones rather than by company); etc. The regularities were sharp, highly refined and forceful.

Thus, collective aspects of disaster were mediated by salient points of reference which conspicuously followed occupational lines. People in the same occupation or comparable positions were primarily oriented to one another in giving and receiving information, sharing resources, integrating operations, cooperating, etc. Negative (and competitive) orientations also followed occupational lines. These patterns applied both to private and public groups, although they could most easily be observed among public organizations.

These limited reference group orientations had both functional and dysfunctional effects. They were the foundation of a spontaneous division of labor that gave direction to outside helpers. Specialists needed little early guidance, but contacted their local colleagues directly. Reference groups were also the basis of incipient operating blocs. Flint showed several striking instances in the informal liaison between the private contractors and the county road commissioner and between the local police and the private plant-protection departments.

But there were also some important dysfunctional results. Such exclusive orientations often isolated from each other groups whose members were in close physical proximity. People who were unimportant for one another frequently failed to share highly relevant information. The low significance of some "civilian" groups for the state police in Flint prevented the pooling of vital information which would have corrected false operating perspectives.

Similarly, leaders were isolated from qualified resources. Specialists were frequently not consulted for guidance in specialized matters, as in the independent decisions regarding the establishment of the emergency hospital and the provision of emergency housing facilities in Flint. Medical and social service people were ignored by police and officials. By the same token, the resources and services of some groups were overlooked. The state police in Flint simply did not exploit the Civil Air Patrol because this group did not loom large in its calculations.

Further, occupational reference groups carried the seeds of incipient competition which were often likely to sprout. This potential threat certainly inhibited leadership (as in Flint) or made for independent operation (as in the segregation of the Worcester police and Civil Defense). Occasionally it erupted into open conflict (as between the Worcester Red Cross and Civil Defense).

Occupation was the primary alternative to community membership as an axis of integration. Occupational groups cross-cut community lines and provided an apparently stronger basis of cohesion than dissimilar occupations within the community. That occupation rather than community should have been the authorities' major reference principle in disaster is not a spurious product of our data. Occupations frequently serve to bridge social systems and establish links between their members, as a recent annual report on the activities of the British Council exemplifies:

Our main task is the making and fostering of contacts between individual people. We have not the resources... to make any direct impact on the masses. Among the most effective international contacts are those between opposite numbers. This principle, apparently, was established largely as a result of experiences in providing diversions for American forces in Britain during the war. General courses on general subjects made comparatively little headway. But courses for doctors or farmers, run by their British counterparts, were a success. "Contact was made," as somebody put it today, "on the basis of something they already had in common. And we've not forgotten it."

The power of occupation in guiding people's effective orientation was learned in another context in Britain, but its persistent strength in disaster testifies to its fundamental character.

(5) Sheer social status and power pervade the fifth reference group dimension, informal influence. Beyond such occupational alliances as the plant protection men and the Flint police were other informal influentials to whom different authorities were oriented. The effect of the VIP's in Worcester and the early relinquishment of the pass system in Shrewsbury indicate considerable private influence. It would be of importance to learn what, if any, informal influence helped to settle disputes or allocate authority. Our data only hint at probable systematic influences of various informal social groups and non-governmental leaders on public decision-making. Such private influentials doubtless played central roles within the disaster apparatus, especially at high levels. In this sense, the structure of public authority encompasses more components than official offices and agencies. Formal and informal systems enter into a delicate, complex balance which warrant greater attention than the present study could give.

* * * * *

Taken together, the non-solidary ends, symbolic participation, and salient reference groups locate essentially private orientations or interests which may conflict with collective values. They divert attention from comprehensive perspectives to limited segments of the disaster participants and overall situation. The private norms which support them tend to be stable and persistent. They are less amenable to change and redefinition than the inadvertent conflicts which result from partial exposure, private definitions and independent operation. The non-solidary

conflicts result from definite forces, not simply from a vacuum of direction and integration. Consequently, they are likely to foster obstacles to comprehensive leadership and a resistance to pressures for consensus and a unified disaster apparatus.

Police and community. Insofar as the police occupy such a strategic position in the overall leadership structure, their reference groups assume special importance. On many grounds, the police seem singularly qualified to assume emergency authority. They have organization, resources, professional experience in handling disorders. They have a tradition and the outward symbols of community authority. They are accustomed to a superordinate position, and to exercise initiative and issue orders.

The texture of police participation, during the disasters and in the research itself, suggests that they had less emotional involvement in and less emotional response to the effects of the tornadoes than other groups. Up to a point, this may be extremely valuable for effective leadership because their ability to make objective decisions may be less impaired than those with greater emotional investment.

But the police gave the impression of an underlying sense of alienation from the community and the people they represented. They seemed to observe a "we-they" distinction between themselves and virtually all non-police. This was not stated explicitly, but the impression was suggested by subtle cues, by modes of reference to themselves and others, by the terminology with which they disparaged the ability and adequacy of almost all non-police groups in the field. The alienation was also implied by default, by what was not said. Of three dozen assorted policemen who were interviewed, only one man ever referred to disaster victims in terms of sympathy or compassion. This was in marked contrast to members of all other groups, including journalists, social workers, doctors, and others occupationally toughened to the spectacle of human suffering. Police may be little given to sentimental expression, particularly for the record, while others may be more prone to make their sympathy explicit, if only as a gesture. But the entire series of interviews with police respondents showed a pronounced lack of compassion and an extreme emotional flatness--except in the expression of aggression. They were extremely articulate in their aggressive feelings and their contempt for others, displaying a depth, subtlety and refinement that were lacking in other subjects. The police conveyed a strong sense of alienation from the rest of the community.

This impression corresponds closely with findings of independent research into covert values of police groups. These have long been subject to popular speculation, and such invidious images as the "third degree" have long permeated folklore. Actual research, however, into the content of police values has been rather sparse, certainly to some extent because of their concealment and inaccessibility for direct study. William Westley, however, has reported on the private values by which police condone their maintenance of secrecy and illegal use of violence. He reports that "...the maintenance of secrecy...is considered to be more important than law enforcement, and is supported by the most powerful sanctions available." (Westley, 1953: 34-41.

Elsewhere, in developing the themes of police norms, he finds:

Since "brutality" is strongly criticized by the larger community, the policeman /rationalizes it in a manner which/ results in a transfer in property from the state to the colleague group. The means of violence which were originally a property of the state, in loan to its law-enforcement agent, the police, are in a psychological sense confiscated by the police, to be conceived of as a personal property.

Their use of brutality...is a result of their desire to defend and improve their social status in the absence of legal means. This desire in turn is directly related to...the low status of the police in the community, which results in a driving need on the part of policemen to assert and improve their status. Their... occupational goals...are independent of and take precedence over their legal mandate. (41)

These results suggest (1) that the police believe that these private or group ends constitute a moral legitimation for violence, which is equal or superior to the legitimation derived from the law... (39)

The policeman finds his most pressing problems in his relationships to the public. His is a service occupation but of an incongruous kind since he must discipline those whom he serves. He is regarded as corrupt and inefficient by, and meets with hostility and criticism from, the public. He regards the public as his enemy, feels his occupation to be in conflict with the community, and regards himself to be a pariah. The experience and the feeling give rise to a collective emphasis on secrecy, an attempt to coerce respect from the public, and a belief that almost any means are legitimate /in discharging their duties/. These are for the policeman basic occupational values. They arise from his experience, they take precedence over his legal responsibilities, are central to an understanding of his conduct.... (35) (Westley, 1953.)

This analysis and the impressions drawn from the present research make the relations between police and other groups comprehensible. The assumptions which raise police "above the law" made inadequate the Governor's intervention to assure the exercise of leadership in Flint. Private police norms took precedence over the responsibility and authority legally delegated to them.

Further, police tend to regard their authority as an exclusive, indivisible prerogative. When disaster circumstances obliged them to share their authority even nominally with officials or agencies like Civil Defense (as in Worcester), the police viewed this as an infringement of their rights. Metaphorically speaking, they saw only a limited amount

of "police power" in a community. Any portion of this which was given up to non-police groups was, in effect, "usurped" by intruding competitors. This was also felt as a deprivation because disasters offer police unparalleled opportunities to assert their power, dominance, and indispensability.

Westley argues that in their desire for status, the police regard the public and the community as significant reference groups. During the present disasters, the police expected public conformity and obeisance to their orders. Certainly, they found public recognition of their disaster services gratifying, but such rewards seemed to be "gravy." Our data indicate that the police did not seriously seek public recognition. Their most significant sources of prestige, status, and honor were basically confined to their own organization and other police groups. These were apparently the important judges who could properly appreciate police performance and confer prestige. Thus, just as sociologists may be professionally most sensitive to the judgments of other sociologists and surgeon to other surgeons, so the police accepted their colleagues as major reference groups and their most significant sources of esteem. Their private deprecation of non-police groups evidently reinforced their internal cohesion and alienation from other community organizations, a case of multigroup memberships indeed conflicting. To be sure, only limited segments of the larger community may be well informed about private police values. This may help to integrate the police as an exclusive society (Tumin and Moore, 1949: 787-795), but its disaster consequences can be quite dysfunctional.

It must be remembered that, despite the general qualification of police organizations for disaster, policemen normally work as individuals or small teams (in contrast, for example, to the larger units found in military operations).³ They are not accustomed to have their activities closely supervised nor to organize the large-scale operation of others. Also, their private group values of dominance, aggressiveness, and physical action lend themselves, in extreme cases, to personal ego-aggrandizement which can easily be realized in individual and small-group action. Certainly, in the fluid disaster situation, such personal goals could easily be gratified, regardless of the coordination of operations.

Further, their reference groups indicate that police have a special relation to the rest of the community. Their positive identification with it and with collective welfare seems quite equivocal. For example, Westley's findings dealt mainly with the relations between police and criminals or suspects. They define offenders as inimical to social organization and this presumably justifies their firm control. The police show strong solidarity against these deviants. In the disasters, however, they expressed a comparable animus toward officials and agencies which represented respected, responsible elements of the community. The relations between the police and law-abiding public-service groups involved no control of offenders in a society governed by laws and not men. On the contrary, disaster problems concerned solidary interests of welfare and equilibrium, not the actions or values of deviant groups. The alienation of police from both the "respectable" and "disreputable" elements of the community implies that their private norms are quite remote from ideals of public service; they tend to be pervasive and applied indiscriminately to the community.

The particular reference groups, private values, and usual work context of police exert forces toward fragmented operation in emergencies. Yet the disaster situation may place a premium on the coordination of energies if any overall control is to be achieved. This contradiction cannot easily be overcome without a basic shift in police reference groups and waiver of private norms. According to our data, such a shift can by no means be expected.

If it should not occur, would this mean that the private norms were incompatible with collective interests and that police could not be effective disaster leaders? The police might be able to impose effective control when community disruption is limited rather than extreme. The objective situation might permit the realization of both communal welfare and private police goals of dominance and aggressive action. But beyond some hypothetical point, genuinely severe disasters require collective organization which is not conducive to private norms. Our data suggest that at this point of conflicting values, private police goals will tend to prevail over communal interests. This implies that police leadership and effectiveness would be inversely related to the severity of disaster, increasing with the opportunity for individuals to perform favorably in small emergencies, and decreasing as larger crises require greater rationality and coordination of operations.

Private Norms and Community Integration. The police have been singled out here because of their strategic disaster role, but they may illustrate only a special, if extreme, case of non-solidary ends. Private norms are latent and pervasive in the normal authority system. They may take precedence over definable community interests, even among groups that are not sharply alienated from the community, and thereby affect the role of different public authorities in varying degrees. This can limit the amount of cohesion within community authority systems. The restriction should be greater when strong private norms and conflicting interests focus effort on prestige, power, status, or similar scarce social values. Future research might well examine the integration of authority systems in terms of discernible tolerance limits, or the points at which private interests supersede or are forcefully subordinated to collective goals. Profoundly disruptive crises may alter the tolerance limits normally governed by occupational identification, non-professional prestige organizations, and the innovation of new emergency services, such as Civil Defense.

Conflict and Control of Disaster. The present study has concentrated on the effects of conflict, and this interest may have magnified its apparent importance in disaster. Clearly, the latent divisive forces in the community do not invariably erupt, nor are they purely dysfunctional. It would be surprising if the crisis did not also heal some existing rifts.

The net effect of the authority conflicts were fairly clear in one respect: They did not improve disaster operations. In Flint, for example, as in the Netherlands flood, leadership was inhibited. But this does not necessarily mean that conflicts or leadership inhibition seriously impaired the larger response to disaster. We have examined the conflicts under a magnifying lens in order to identify their properties, so they have loomed large, perhaps larger than life. The differences observable under this magnification may dwindle in significance when we restore the life perspective. During the rescue stage, formal organization may have affected only

a minor portion of the total disaster operation, and conflicts may have altered the objective results only negligibly. If this should be the case, then conflict may have influenced an inconsequential part of the total situation in comparison with weightier variables. Unfortunately, our data cannot discriminate this.

It is quite possible, however, that improvised emergency systems may have only a minor objective effect on large disasters. In the present study, formal leadership systems did not seem to be clearly decisive, or at least we cannot confidently attribute decisive importance to them. Nor can we say that when conflicts obstructed organization, this had telling results on rescue. To be sure, isolated instances may be judged with greater confidence. For example, the congestion at Hurley Hospital in Flint probably could have been relieved by improved traffic control. Although potential conflicts are always present, we cannot clearly assess their objective consequences on disaster. The problem remains open for further study.

Apart from conflicts, it is quite clear that actual control over the worst phase of disaster is loose at best. Under the most favorable circumstances, rational organization had only limited control over rescue and evacuation of victims. This was rooted in the fluidity and amorphousness of the situation, inexperience with disasters of even such magnitude, and the vast, diffuse energy released in the mass assault. There is no reason to suppose that rational leadership can quickly impose control over the effects of large rare disasters. Formal organization may be able to affect the total situation only within narrow limits. Possibly a sheer, unguided mass assault ultimately achieves as much as improvised formal leadership systems. Or possibly leadership might be effective only in selected processes, principally in breaking bottlenecks by small, mobile work teams; in keeping traffic channels open; in setting up a centralized communications system which gives full ground coverage; in the mobilization of strategic resources; and in keeping surplus supplies out of the operating field. But beyond these, there may be little realistic prospect for positive direction and effective control during the most critical period.

This is no insistence that rational improvisation is futile, for the question is still quite open. But we must recognize that the evidence is not promising. Successful organization may demand both optimal conditions and gifted leadership. Before the question is uncompromisingly prejudged, however, we can review some of these conditions.

Problems of Ideal Organization. Perhaps the best approach is to specify the strategic problems that necessarily must be met if rational control is to be achieved. They can be analyzed into general categories of potential decision and action which confront any overall leadership. These critical decision points are neither an inventory of actual operating procedures nor a manual of disaster tactics. Although the particular illustrations refer to tornadoes, similar principles of organization apply to other disasters as well.

The strategy of effective disaster leadership generally seems to hinge on two crucial processes: (1) the exploitation of specialized resources; and (2) the channeling of spontaneous mass responses.

I. Unconditionally, an early, systematic survey is the cardinal criterion of overall leadership. The first problem of organization is that of orientation. An amorphous situation must be structured to clarify the problems which must be solved. This demands some overview of the entire emergency to fix its approximate limits and its internal properties. Thus, the boundary and characteristics of the field must be defined. Such a picture demands some quick, but systematic, survey to collect information. The accuracy of detail is less important than the adequacy of sampling and coverage. Enough facts must be gathered from different sections of the entire affected area to give a working picture of the overall disaster and a reasonable estimate of its problems. The circumstances of any particular disaster will govern the extent of a possible survey, whether information is systematically collected only once or is generated continuously, and whether information sources are direct or indirect.

II. The second step in organization is the analysis of such survey information to define the objective problems. This involves several judgments:

- A. Assigning problems to rough classes of priority.
- B. Differentiating them according to substantive and procedural needs. The latter are distinguished by their value for maximizing control over the total situation (viz., giving high priority to communications and circulation processes).
- C. Differentiating problems according to the criteria by which they will be handled: Maximum effectiveness (minimum time in completion) vs. maximum efficiency (minimum cost). Effectiveness will certainly be invoked for survival problems while efficiency will be most applicable to property protection. Since these values are related to disaster stages, effectiveness and efficiency norms will tend to predominate sequentially.
- D. Differentiating problems according to preferred flow-patterns:
 - 1. Those in which resources must be mobilized at fixed points of need (viz., rescue equipment in the field);
 - 2. Those in which needs must flow to fixed resources (viz., evacuation of casualties to hospitals);
 - 3. Those permitting an option in flow (viz., feeding, first aid).
- E. Distinguishing problems according to whether administrative or technical criteria should guide the division of labor.

III. The third step in organization is the specification of instrumental needs in both general and concrete terms. As the generic aspect of problem-solving, it involves:

- A. A gross division of labor whereby work areas are broken into spatial zones, problems are reduced to smaller elements,

and work processes are analyzed into independent or integrated functions (i.e., into isolable or non-isolable procedures).

B. The translation of work problems into necessary resources which may be broadly classified into several major groups:

1. Supplies, Equipment, Facilities

- a. Abundant, General, or Unspecialized-- trucks, transportation, housing, cots blankets, rope, etc.
- b. Scarce, Specific, or Specialized-- power chain saws, cranes, portable generators, floodlights, walkie-talkies, public address systems, electroencephalographic equipment, etc.

2. Personnel

- a. General or Unspecialized-- manpower, drivers, etc.
- b. Experts, Specialists, Technicians-- brain surgeons, radio mechanics, bulldozer operators, pilots, trained rescue teams, etc.

The principal distinction between specialized and unspecialized resources is the flexibility with which units are interchangeable. Unspecialized resources may be easily procured and substitutes can be improvised without creating serious bottlenecks. But specialized resources simply admit no easy substitution. An oxygen tent or a scarce blood type illustrate such relatively inflexible needs. Similarly a bulldozer and power-saw team can open a road in a fraction of time required without them. One either does or does not have specific specialized resources.

IV. The fourth aspect of organization is the mobilization, control and allocation of resources. The manipulation of resources and their commitment to specific operations involve:

A. The identification of problems in which specialized resources can be exploited, including:

- 1. Functions which cannot safely be entrusted to inexperienced people.
- 2. Approximate knowledge of the necessary facilities or skills.
- 3. A knowledge of the location of suppliers of specialized as well as unspecialized resources, especially in the local community or surrounding area.

4. The delegation of supervisory authority and control directly to technical specialists where possible.
 5. A sensitivity to the potential contribution of specialists and when to seek their counsel.
- B. An appreciation of the problem-solving and problem-generating aspects of different resources. Few resources have purely favorable or unfavorable effects under all conditions, but their utility varies with purpose and circumstances. A clear understanding of these conditions sometimes requires experienced judgment and a knowledge of the processes which are taking place (viz., the Flint mayor's misunderstanding of the Hurley Hospital screening system). The utility of resources is related to:
1. Time stages in the operating program.
 2. Mobility, flexibility, fragility, and bulk of facilities.
- C. Mobilization and allocation of resources are mediated by controlled flow.
1. Mobilization involves the system of supply. The general principle is to organize reserves whose access to centers of operation shall be regulated by need.
 - a. Unspecialized resources may be mobilized in large volume and massed at the periphery of operations available for use, but not so as to impede circulation and operations.
 - b. Specialized resources that might later become necessary may be mobilized into pools in the field of operations provided they do not aggravate congestion.
 - c. In the concentration of resources, the use of consolidated or dispersed pools can only vary by local circumstances (including available communications facilities).
 - d. The regulation of entree to the field can be complemented by prompt evacuation of those resources which are no longer needed. The ruling criterion throughout is maximum flexibility--both in circulation and in keeping potentially useful reserves available for commitment.

2. Several principles are germane to the allocation of resources:

- a. Those resources to be given specific pinpoint assignments from centralized pools should be distinguished from those to be permitted free circulation without assignment for maximum flexibility. Control should be exercised over the first and a check kept on the second.
- b. General resources may be dispersed fairly uniformly in the field to the extent that needs are similarly distributed. Uneven distributions must correspond to the distribution of need in order to avoid the hazard of saturating some areas at the expense of others.
- c. Special attention must be given to real, imminent, or potential bottlenecks. These are typically bound up with specialized equipment or with problems or circulation and congestion. The circulation bottlenecks require highly flexible troubleshooting teams that work on assignment.
- d. A distinction must be drawn between individual volunteers and cohesive small groups with their own sense of identity (usually agency, work, friendship, or family groups). The stable structure of cohesive groups keeps them intact as work teams while individual volunteers tend to shift from one ephemeral group to another. This has implications for:
 - i. The amount of supervision or direction which different volunteers require;
 - ii. Their assignment to single tasks piecemeal or to small work programs;
 - iii. The extent to which they must be incorporated into communications channels for work progress reports.

V. The final element of organization is the integration and coordination of operations. This requires in the leadership structure:

A. Common perceptions and agreement on:

- 1. Communal ends, with a moratorium on divisive, private values.

2. Objective problems and the general strategy of an integrated plan.
3. The division of responsibility and functions.
4. The importance of consolidated communication for coordination.
5. The capitalization of chance by systematically directing exploitable windfalls into the structure of control.

B. Structural elements:

1. Division of responsibility, authority, and control into a functional and spatial hierarchy adequate for a two-way communications system.
2. A viable communications flow by which the higher coordinating echelons are kept informed of ground-level developments as a basis of decision-making.
3. Consolidation of information on an ongoing basis and circulating information among those for whom it is pertinent.
4. A system of headquarters which includes one consolidated field center and one outside headquarters to service its requests. Ideally, the field center should rely on the outside headquarters for making contacts outside the field (in the mobilization of resources, etc.).

* * * * *

This formulation is not intended as a set of moral imperatives about what should happen in a disaster, nor a prediction of the streamlined organization which will be improvised in several hours with the precision of a slick football team. It indicates some major conditions for the increase of control, strategic decisions for cutting down wasted effort and increasing integration. In a word, these are categories of rational problems of leadership about which decisions are actually made or defaulted.

It also places some of the spontaneous responses to disaster in sharp relief against the objective problems which must be met. The discrepancy between the real and the ideal patterns helps to clarify the prospects for effective spontaneous organization. The discrepancies are necessarily great. In sudden, unfamiliar disasters, they certainly appear to be inevitable and unavoidable--and, on balance, perhaps irreducible.

Prospects for an Omnibus Disaster Organization. In contrast to the prospects for improvised systems, experienced emergency agencies (like fire departments or the Coast Guard) present another picture. Their refined procedures incorporate and routinize action in terms of the categories we considered. For these professionals, the discrepancy

between ideal organization and real operation is not great. Indeed, familiarity with endemic, recurrent emergencies produces routine procedures even on informal levels.⁴

The question which this poses is whether some disaster provisions are feasible between the extremes of sheer unpreparedness and professional emergency organization. In other words, what would be the prospects of a general disaster organization set up to cope with any unpredictable natural emergency which might strike a community? Could an omnibus disaster agency operate effectively against a broad range of possible calamities? The problem is not abstract, but may be quite topical. We could specifically ask the question about the prospects for an effective Civil Defense.

Basically, the problem presupposes economic factors. Conceivably almost any effective organization can be assured at a calculable, but prohibitive cost which few communities could meet. To be realistic, we would have to assume cost limitations roughly approximate to recent Civil Defense expenditures, and at most a factor of twice this order. Within these conditions, what might be expected of an omnibus disaster agency in the community?

On the basis of the present research, the prospects for such an organization are not sanguine. First, it would be faced with many problems of new organizations in fields dominated by existing public agencies. Not the least of these would be the resistance of the old groups which might feel challenged or skeptical about the importance and necessity of such a new agency. This obstacle might prove too formidable for a new group, as conflict of the Worcester Civil Defense and Red Cross indicates. Innovations which seem superfluous or threaten powerful interests generally face strong opposition.

Second, to achieve some status and symbolic importance in the community, a new agency would have to contend with extensive promotional problems. To attract public support and participation, it would have to create an appealing public image, based either on the importance of its work, the personal benefits of its training, the civic virtue of community service, or the prestige which affiliation would confer. Such a public relations campaign would be extremely expensive and would probably have limited appeal. The lack of concern which has confronted Civil Defense in America and even in England darkens the prospects for building a successful mass-based organization (Dean, 1964).

Third, the agency would have to develop an obvious, unqualified professional competence. Whether this could be achieved at the local level is doubtful. The organization of the Red Cross implicitly recognizes this problem, for local chapters are expected to hold the disaster fort as well as they can until the trained professionals arrive from regional or national centers to take over the local situation. Without actual operating experience in live disasters, professional competence is hard to come by, especially at the local level. It is difficult to clarify roles and to integrate several agencies, particularly when they are basically reluctant participants. Simulated emergencies and field maneuvers may have only limited training value. The possible alternative of a Red Cross form of organization has obvious disadvantages, primarily the operating delay in the crucial early period, as well as the possibility of friction between local and higher-echelon outside groups.

Finally, in view of the values and response patterns of police, we would expect them to continue to regard civil emergencies as their responsibility, prior agreements to the contrary almost notwithstanding. The professional police tend to have little respect for the competence of non-police agencies and informally exclude them from the dominant authority spheres. A new organization would be faced with potential strains in this quarter.

In general, then, such an innovation would face formidable institutional problems, those of a new mass-based amateur agency entering into competition with established professional groups (at the very least, for appropriations) in order to claim authority which the professionals would spontaneously assume both as a right and obligation. The sheer political problems which this presents may prove well nigh insurmountable. The basic difficulty might be to secure the cooperation and subordination of separate interest groups for the sake of hypothetical, remote events which have no compelling reality.

It is possible, however, to conceive of another kind of disaster organization which might have a somewhat greater air of reality about it. This could be designed to avoid some of the major obstacles. It would not entail basic changes or pressures to alter the existing balance of forces among community agencies. It would not be a large-scale, independent "leadership" agency aiming at broad social participation, with its attendant promotional, competitive, and financial burdens. Instead, it could accept the existing institutional structure as its basic working framework and simply assume that the latent attitudes and spontaneous response patterns are highly resistant to change. It would then identify the gaps in the system which it might fill with minimum disruption. The group could consist of a small, integrated, intensively-trained staff of disaster experts. It could be affiliated to existing agencies and perform staff functions for them. By concentrating on specialized skills and knowledge not available elsewhere, such a staff could complement existing institutions without adding a competing agency to duplicate the services of others.

Such a staff agency might focus on the appropriate strategy and tactics for three key disaster problems: (1) the control of mass participation, especially untrained volunteers; (2) the exploitation of specialized resources (including a detailed inventory of various skills and facilities in the community and region); (3) the location of nondisruptive outlets for symbolic participation.

Would this or another alternative to a mass-based agency offer any greater prospects of success? Perhaps some, although the margin might still be small. Its superior chances would rest on the limited social changes which it would entail and on the recognition that the democratic values of mass participation are not mutually exclusive with intensive training, extensive experience, and highly specialized skills. Disaster problems require both. Effectiveness may depend almost completely on how skillfully they are handled as complementary factors.

Such an agency would probably have to meet at least two conditions: (1) It would have to set up close working ties with other agencies as a matter of normal routine. This does not mean simple liaison, but intimate, joint working contacts which foster others' involvement, an identity of

interests, and personal familiarity centering on an occupational identification. (2) The long-range planning functions would have to be brought into a routine, informal workaday context. Proposed solutions to key disaster problems would have to be tested in the community as in a laboratory. This would require the use of opportune situations in the daily life of the community, especially those which approximate the elements of disaster problems. This implies, for example, that various "crowd" events, such as athletic matches or other large spectator gatherings, offer useful experimental conditions. They provide crowds of people, massed traffic, including ponderous buses, and "fragmented" behavior in which many people work toward similar ends on an individual or small-group basis, use similar channels of flow, etc. Faulty solutions to the control of spontaneous, individually-defined behavior can be rather quickly exposed. There are ample opportunities to introduce the equivalent of specialized functions into these mass situations. Such experiments should of course be planned to facilitate rather than hinder the objectives of crowd members.

This approach might have several results. It could lead to the refinement of disaster-related skills; it could establish a recognized sphere of competence for the agency; it could demonstrate the group's professional qualification to others; and it might, incidentally, help to improve current municipal services.

These possibilities rest strictly on the program's routinization on a practical, workaday level. The "field tests" would have to be conducted quite spontaneously, without elaborate preparation, public warning, or advance publicity. Indeed, the problems demand that public participation be spontaneous and unprepared--and with a minimum of disruption to the equilibrium of the community.

A program of this type demands skill, but it may be feasible. Its ultimate chances for success are limited not only by the necessary leadership skill, but even more by the inherent dilemma of a community's institutionalization of methods to deal with rare, random events. When actuarial probabilities of a natural disaster are very low, there may be little incentive to invest in any program when so many other pressing community needs are competing for a share of the budget. The proposed agency would be competing for funds against other municipal improvements--social services, teachers' salaries, a neighborhood swimming pool, new buses, street widening, etc. As a form of "insurance," it might not be particularly attractive. It might be easier to promote an investment in, for example, wall fire-extinguishers because this is a sheer marketing decision, the costs are relatively small in an overall budget, the possible losses without them are clearly calculable, and a tangible product is secured for the money. But a specialized disaster agency cannot be viewed so clearly, partially because its functions are less specific and the consequences of non-investment are by no means as specifiable. Both decisions involve calculated risks. But a disaster agency is beset with so many imponderables that there might be little inducement to take it seriously or to view a possible disaster as a realistic prospect which makes advance action prudent and advisable. Those communities for whom recurrent calamities are realistic prospects do not have to be prodded into protective planning.

FOOTNOTES: Chapter VII

1. The use of force is seldom necessary for the maintenance of order since the symbols themselves are clear enough. An interesting aspect of this was reported in a Worcester news story:

Questioned whether guardsmen carried weapons containing live ammunition, the /militia's/ headquarters came back with a quick "no comment."

"But whether we're protecting the people's property with loaded guns or not," one staff officer quietly said, "don't forget our boys are packing bayonets."

2. This usage differs somewhat from the conventional concept which treats reference groups essentially as non-membership groups. See Herbert Hyman (ed.), Readings in Reference Group Theory and Research (New York: Free Press, 1968).
3. For a general treatment of the operation of the police, see Banton, 1964; Bordua, 1967; Kennedy, 1970.
4. This is often described as a disaster subculture. See Wenger and Weller, 1973.

Appendix I

THE RESEARCH STUDY

This study of problems of authority was undertaken in the summer of 1953 under the sponsorship of the Committee on Disaster Studies. Two tornadoes struck in separate sections of the country; the investigation covered three towns in Massachusetts (Worcester, Holden and Shrewsbury) and one in Michigan (Flint).

The Sample. Since there was no advance knowledge of the leadership and authority situation, there was no principle by which to define the significant universe for purposes of sampling. This had to crystallize as the research unfolded and disclosed an outline of the overall disaster, the participating organizations, the decisive events, and the key figures. At the outset, there was no way of knowing whose experience was most relevant, and hence, who belonged in the sample.

This entailed two basic decisions from the start: (1) to regard all people as informants who report events of which they have firsthand knowledge, rather than as respondents who describe only their own personal experiences. This is essentially a difference in emphasis. With informants, we are interested in how much light they can shed on a total situation; with respondents, we are more concerned with their own personal responses and action. (2) The second decision was to sample from a matrix of exposure to different parts of the disaster. Diversified informants could cover the overall situation like overlapping plates of aerial reconnaissance photographs. Consequently, the sample included people who had contact with victims or with non-victims; those active at the disaster scene, at various organizational headquarters, or at service centers; people from different kinds of agencies and performing different kinds of services; and officials or people in positions at different vantage points.

The critical sampling criterion became informants' knowledge of the relations among groups in authority. The final sample totaled over 80 informants. They were predominantly public officials and key personnel in active organizations, largely in positions of leadership. Some informants were in low-echelon posts. Others were non-agency people who had critical "inside" information. Aside from their positions, the informants represented professional and non-professional organizations; police and fire departments; welfare and public service agencies; municipal, county, state, and federal departments; newspapers and radio stations; hospitals; the Red Cross and Civil Defense.

There are, unfortunately, no standard tests of how adequately such a sample represents "exposure to different parts of the disaster." One simply has to observe the limits set by the internal consistency of the data. It is possible to bias a sample of "exposure" inadvertently. But the principle used in the selection of informants probably helps to limit this prospect. This sampling pattern is only designed to insure coverage of events within the

leadership system. But it does not control for inaccurate reporting by the informants selected. This is a separate problem which must be handled independently.

The Interview. Because the sampling was specifically aimed at different exposures, there was no core of shared experience suitable for a standard interview. Therefore, intensive, unstructured interviews were used and these varied in length from twenty minutes to several hours. About a dozen of the most important informants were re-interviewed in several sessions to clarify various problems which arose. The interviews were guided mainly to explore new ground, fill data gaps, cross-check ambiguous facts or conflicting reports, and uncover crucial information. An informant's importance at any given stage of the research varied according to how much new information he could provide or new perspective he was able to throw on what was known to that point.

Supplementary Data Sources. The interviews were supplemented by several documentary sources, including reports to a Civil Defense inquiry in one area, and field reports by various investigators. News stories in the local press were found to be erratic, although they contained useful illustrative materials and public announcements. Occasionally news items were used to fill data gaps when the gap was small and the information was clearly consistent with the interview materials.

Problems of Disaster Research. The problems in the field study of disaster cover the conventional range of research headaches: research design, sampling, entree, rapport, interviewing, respondent distortions, interviewer effects, etc. In disaster research, however, these problems are intensified by the greater uncertainty about their effects on the data. They irrevocably intervene between the investigator and the objective situation that he is trying to assess in a way which is not easily checked. Even with carefully designed instruments, it is difficult to control these effects through such routine techniques as sampling tests or "distortion scales." There is no criterion of "reality" to guide the field work; the nominally "real" situation only emerges when the study is finished.

Many of the field problems of disaster research are being codified for publication. But two of the more formidable difficulties should be briefly discussed here: research entree and distorted perspectives.

Entree. In the present study, three kinds of entree problems were met. First, there was a general research saturation of the field. Aside from academic research, there was a flood of public and private investigations of damage, relief, and the defense implications of disaster mobilization. Informal "research" was also conducted by representatives of press, radio, industry, and by influential private people.

This welter of uncoordinated investigation intensified the second entree problem: competitive claims on informants' time and

attention. Informants were so busy in the early period after the disaster that they had little time for interviews. It is advisable to start observations in the field as soon after a disaster as possible. But, with tornadoes, it may not be feasible to begin any formal interviewing until 24-36 hours after the completion of rescue operations.

The final entree problem is rooted in responses to the disaster. The danger and personal tragedy in the event arouse anxiety in the community. The anxiety is accommodated psychologically by various mechanisms of defense, notably guilt. The guilt may frequently be externalized as hostility. This tendency seems strongest among potential victims who escape loss and suffering and among officials with a heavy weight of public responsibility. The hostility is most commonly directed against outsiders whose interest is easily construed as a violation of sacred values (death and suffering), an invasion of privacy (bereavement), or an exploitation of loss (business and profiteering). Outside researches are open targets for such resentment, particularly if there is any underlying animus toward "theoretical ivory-tower guys."*

Two factors were helpful in dispelling this hostility. The credentials used in the present study gave the research official governmental sponsorship (including that of national defense agencies) and dedicated it to humanitarian goals. These were sufficient to provide entree in all cases but one. One informant refused to be interviewed without the approval of his superior, and the investigator had to arrange this clearance himself. Further, prestigious informants were useful in reassuring other informants. Whenever possible, personal introductions were substituted for formal credentials. The local network of informal influence was the most effective entree channel in the field and usually made the presentation of credentials unnecessary.

Once entree and rapport are achieved, however, distorted reporting and warped images of the disaster become major problems. This is not a deliberate or conscious tampering with the truth. First, informants try to recall a coherent picture, and, second, their perception of a stressful situation is organized strongly by personality needs.

Retrospective Coherence. A tornado sweeps over a huge path and leaves in its wake devastation, confusion, and disorder which envelop an entire community and reach out into the surrounding region. It is a pervasive event of which individual participants see only a tiny part and which they cannot fully grasp. Under the pressure and urgency of work, they often become disoriented in time or space. There is a global impression of utter confusion and hectic activity. Memory is episodic. There are clear images of only limited fragments of experience and it is difficult to relate separate events to one another coherently.

Afterwards, there is an internal pressure for "closure" and clarity which the interview itself intensifies. With these internal and external pressures, informants try to reconstruct a

coherent, unified picture of the disaster. They unwittingly interpolate memory gaps, convert hearsay, inferences or speculation into "fact," order incidents, smooth over conflicting impressions, repress disturbing materials, and generally arrange their recollection into a pattern which makes sense of the experience. Many inaccuracies almost inevitably creep into these reconstructions.

Personality Needs. A second source of perceptual error can be traced to personality needs of informants. The tornado has a different impact on people with different emotional needs, but in no case is the impact reassuring. The informant's world has, to a greater or lesser extent, been shaken up and threatened. But some stabilizing forces inhere in his group identifications, his social values, and his self-images. These are invoked to give reassurance that, though shaken, his world is still basically intact, that the responses to the disaster were appropriate and effective, and that the people with whom he is identified acquitted themselves properly. These personality needs affect the perception of events. In the reduction of anxiety levels, three themes are brought into prominent play, themes of community solidarity, duty, and virility. The assertion of these values distorted the interpretation of disaster activity.

Community Solidarity. Many informants spontaneously asserted that there was universal community cooperation. Some of them even denied that there had been any significant frictions, tensions or conflicts. Others minimized their importance or treated them as exceptions to the general pattern. More often, however, their reports of conflict were simply not related to their claim about community solidarity, and no connection was seen between them. For example, one Civil Defense director claimed that the National Guard "gave us magnificent cooperation, they came in and subordinated themselves completely to Civil Defense authority." A few minutes later he complained that the National Guard had refused to honor Civil Defense passes to the disaster zone. But he saw no contradiction between these statements, partly because of his strong commitment to the image of community solidarity.

Duty and Service. The theme of duty was typified by the sentiment, "We had a job to do and we did it." Selfless dedication was emphasized and any desire for personal credit or reward was denied. The following excerpts from the interviews are illustrative:

We got hit. I don't talk about it because we didn't have anybody hurt like other people, although I didn't even know if my wife and family was O.K. or not. But I didn't go home. I came right back here /to headquarters/.

We all feel the same way. We are not looking for credit or glory. We have a job to do. Let's not talk about it--let's just get the job done.

As evidence of devotion to service, informants mentioned how long some people had remained on continuous duty, without sleep, a shave, a bath, a change of clothes, or seeing the family. The duty theme was most emphasized in peripheral or non-professional organizations. While members typically disclaimed any desire for recognition, they were those most likely to raise the issue and to compare the performance of their group with another.

Virility and Masculinity. The tornado was generally viewed as a trial by ordeal, a severe test of personal adequacy under stress, somewhat akin to various initiation rites on reaching manhood. The emergency commonly demanded personal courage, steady nerves, decisiveness, a cool head, and a strong stomach--all to be expressed in masculine fashion. Any wavering was regarded as a personal failure and a sign of immaturity. A stereotype of the virility theme was expressed by one informant in these terms:

This thing sure seperated the men from the boys. And when it was all over, it turned out that some of the boys were men and some of the men were boys.

In another instance, a news story reported the discovery of the last missing person in town, an infant whose body had been hunted for three days. The truck driver who found the body was rumored to have fainted. The news story carefully made a strong, explicit denial of his reported faint.

The unintended distortion from retrospective coherence and from personality needs are, of course, not exclusive and they may well operate together. These warped perspectives bedevil the investigator. The constant possibility of error necessitates steady cross-checking of information. The data must be carefully weighed and sifted to yield an objective picture of the events.

The few problems discussed here are generic to all research, but they assume special prominence in the disaster field. They operate quickly and powerfully to obscure the disaster events, and accurate data begin to melt away at a disconcerting rate, as the winter snows in a springtime thaw. Thus, the investigator--or preferably, the team-- must work rapidly and intensively in a short period of time. After that, additional units of research effort are rewarded by rapidly diminishing increments of sound data for a least certain kinds of research.

* These reactions are less formidable in an "impact-on-victim" study. Many people directly exposed to the disaster have residues of anxiety to liquidate and apparently seize upon the interview situation as a cathartic outlet. The problem in interviewing is not to establish rapport and persuade victims to talk, but, for a non-specialist, the subtler one of recognizing the therapeutic implications of the situation and the attendant problems which may develop.

Appendix II

WORCESTER, HOLDEN, AND SHEWSBURY REVISITED

In the late stages of the present study, slightly over a year after the tornado, Worcester, Holden, and Shewsbury had a second disaster scare. These cities were brushed by the edge of a hurricane which wrought vast devastation elsewhere in New England, but scarcely affected the three tornado towns. The opportunity was taken to revisit these towns on the day after the hurricane to see what effect the tornado of a year earlier had on the authorities' perspectives and action in the hurricane threat.

There had been adequate advance warning of the impending hurricane through all the public communications channels so that the storm was expected. In the words of a colonel in the State Civil Defense:

I guess the people in the weather bureau learned from last year that it doesn't pay to be so cautious. It's better to cry, 'Wolf!' and have nothing happen than to keep quiet for fear of creating panic.

State Civil Defense headquarters alerted all local directors about the hurricane and instructed them to work through the nearest State Police post if they should need help and find that the telephones were disrupted. This was almost a formal, official approval of the actual dependency patterns observed in Holden after the tornado.

Advance knowledge of the impending hurricane was common in Shrewsbury. But no special preparations were made by any officials. The local Civil Defense director dropped into Town Hall during the morning and several auxiliary policemen phoned to find out if they should come into the station. Four or five men actually did report in case they should be needed. After the wind blew over, the mayor walked around town, inspecting the effects and giving occasional instructions to Public Works Department crews which were clearing streets of fallen branches.

Holden officials were not formally warned or instructed about the hurricane. They had only the public news of the press and radio. Nobody took any preparatory action, privately or publicly. The Civil Defense director was out of town. If he had been present, the organization might have been alerted.

In Worcester, the mayor did officially alert Civil Defense, instructing the director to assemble the key division heads on a stand-by basis. Although no volunteers or lower-echelon people were called in, the core of the operating staff stood by on a seven-hour alert until the weather bureau gave the all-clear. The communications head set up the HAM radio network, and half a dozen additional telephones were quickly installed in the office. An emergency short-wave radio station was set up for the mayor in

a city car and this was kept outside his office at City Hall in case emergency operations became necessary or telephone lines were knocked out. The mayor kept a close check on the developing hurricane. He made a public radio broadcast during the morning to reassure the community that a close watch was being kept on events and instructed people to remain indoors until the hurricane had passed.

This is the full extent of action which public authorities took in anticipation of the hurricane. The most conspicuous lesson learned from the tornado was to set up communications lines and keep them open. Also noteworthy was the lack of action in the small towns, the Worcester mayor's careful tracking of the storm, and his other steps to avoid trouble, including his public reassurances and safety instructions to the public.

There was no apprehensive over-reaction to the hurricane threat anywhere. This was one possible response after events of the previous year, but nobody took over-elaborate precautions or got excited. On the contrary, the basic responses were far more apathetic than hysterical.

The views of the Worcester Civil Defense director were essentially unchanged from his images of a year before. He reported that with the alerting of his key staff, "We were all set to go if it had been necessary." Beyond the installation of telephones, there was no indication that the organization had fundamentally changed since the tornado, that clearer operating procedures had been developed, that the division of responsibility with other agencies had been clarified, or that the organization was any more competent to handle a disaster.*

The hurricane offered no real test, however, because there was no emergency, no crisis, no disaster. There was insufficient stress to test what, if any, real changes had crystallized in the intervening year. It would be impossible on the basis of this incident, for example, to see whether Civil Defense and the Red Cross had straightened out their differences in some stable fashion. The authority system had scarcely been stimulated enough to make any moves, although the responsibility which the mayor quickly assumed is suggestive.

*For other studies dealing with change created by disaster events, see Drabek, 1968; Anderson 1969; Weller 1973; and Taylor, Ross and Quarentelli, 1976.

Appendix III

STATEMENT OF UNDERSTANDING

BETWEEN THE FEDERAL CIVIL DEFENSE ADMINISTRATION

AND THE AMERICAN NATIONAL RED CROSS

RELATING TO DISASTER OPERATIONS

UNDER EXECUTIVE ORDER 10427 AND PUBLIC LAW 875

To insure understanding and agreement on interpretation of Executive Order 10427 and Public Law 875 (Federal Disaster Relief Act), this statement is issued by the Federal Civil Defense Administration and the American National Red Cross for the guidance of National and Regional Offices of the Federal Civil Defense Administration, State and local civil defense organizations, and National Headquarters, Area Offices and local chapters of the American National Red Cross. Nothing in this statement affects in any way other agreements between the Federal Civil Defense Administration and the American National Red Cross relative to Civil Defense responsibilities under Public Law 920 (Federal Civil Defense Act of 1950).

Executive Order 10427 was issued by the President on January 16, 1953. This Order directs the Federal Civil Defense Administrator to take certain action authorized by Public Law 857, 81st Congress, 2nd session, as amended, providing for a continuing means of supplemental assistance by the Federal Government to States and local governments in carrying out their responsibilities in alleviating suffering and damage resulting from major disasters.

It further directs the Administrator to coordinate activities of Federal agencies in planning for and furnishing assistance in disasters and to foster development of State and local plans and organizations to cope with major disasters.

In addition, the Order authorized the Administrator on behalf of the President to coordinate activities of Federal agencies affording assistance under their own policies, practices and statutory authority in the event of any disaster which will not permit delay in the commencement of Federal assistance and pending the determination of the President whether or not the disaster is a major one.

Public Law 875, as amended, provides in Section 3 that upon the declaration of a "major disaster" by the President, Federal agencies are authorized to provide assistance "(a) by utilizing or lending, with or without compensation therefor, to the States and local governments their equipment, supplies, facilities, personnel, and other resources other than the extension of credit under the authority of any Act; (b) by distributing, through the American National Red Cross or otherwise, medicine, food and other consumable supplies; (c) by donating to States and local governments equipment and

supplies determined under then existing law to be surplus to the needs and responsibilities of the Federal Government; and (d) by performing on public or private lands protective and other work essential for the preservation of life and property, clearing debris and wreckage, making emergency repairs to and temporary replacements of public facilities of local governments damaged or destroyed in such major disaster, providing temporary housing or other emergency shelter for families, who, as a result of such major disaster, require temporary housing or other emergency shelter, and making contributions to States and local governments for purposes stated in subsection (d). The authority conferred by this Act, and any funds provided hereunder shall be supplementary to, and not in substitution for, nor in limitation of, any other authority conferred or funds provided under any other law."

Section 4 of Public Law 875 states "...nothing contained in this Act shall be construed to limit or in any way affect the responsibilities of the American National Red Cross under the Act approved January 5, 1905 (33 Stat. 599) as amended." The American National Red Cross will continue to carry out its traditional services to those in need as a result of disasters by providing such assistance as food, clothing, shelter, medical care, household furnishings, building and repair of homes, and occupational rehabilitation. The Red Cross in carrying out its relief program will, as heretofore, exercise administrative and financial control over its own operations. Nothing in this statement shall be construed to invalidate or change existing understandings of cooperation between the American National Red Cross and Federal agencies for joint or supporting action in discharging those disaster relief activities for which the Red Cross is responsible.

To secure full coordination of effort in the exercise of their respective responsibilities, the American National Red Cross and Federal Civil Defense Administration agree to and will be governed by the following:

1. Arrangements will be made nationally and regionally for continuing liaison, mutual planning and exchange of information regarding disasters.
2. Similar arrangements should be established between Civil Defense and Red Cross organizations at the local level.
3. Federal Civil Defense Administration will cooperate with and encourage State and local Civil Defense organizations to assist the American National Red Cross in discharging its defined disaster relief responsibilities.
4. American National Red Cross will cooperate with Federal Civil Defense Administration and encourage Red Cross chapters to assist the Civil Defense forces in discharging their responsibilities for disaster relief.

5. Federal funds authorized under Public Law 875 will not be used to reimburse States and localities for expenditure made by them within the area of Red Cross disaster responsibility, as outlined above, nor is it intended that Federal funds will serve as a substitute for, or make unnecessary, voluntary contributions by the general public which provides the Red Cross with the funds necessary to discharge its responsibilities in disasters resulting from natural causes.

/s/
J.J. Wadsworth
Acting Administrator
Federal Civil Defense Administration

February 5, 1953

/s/
E. Roland Harriman
President of the American
National Red Cross

February 6, 1953

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