University of Delaware
Disaster Research Center

FINAL PROJECT REPORT
#15

ORGANIZATIONAL RESPONSES TO MAJOR COMMUNITY
CRISES

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FOREWORD

This document is one of a series of publications prepared
by the staff of the Disaster Research Center, The Ohio
State University, on sociological aspects of community
emergencies. The research reported here was done as part
of a comparative study of responses in civil disturbances
as well as natural disasters. The civil disturbance
research is reported in other publications in the series.
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CHAPTER I

Introduction

It has often been said that man is by nature a social animal. Left to his own resources, problems of survival could become insurmountable. To insure his existence man enters into partnership with his fellowman to form groups, organizations, institutions and societies through which he can collectively confront his survival problems. Most of one's life is spent in some form of group. We are born and reared in families; educated and socialized in schools, churches and other social institutions; and spend most of our adult lives in small work groups. Through joint endeavors an ensuing division of labor occurs which harnesses and puts to effective use the necessary resources to accomplish complicated tasks. Collective social phenomena have become the subject matter of sociology, which has as its primary objective the establishment of empirically-based generalizations concerning patterns of human behavior. The aim of this study is to examine more closely group formation--in particular to focus on development of interdependent relationships. These relationships organize participants into an integrated whole for the purpose of collective goal achievement.

Social scientists too often assume a priori existence of groups and structural relationships. While attention is given to studying internal and external group dynamics and to investigating social psychological dimensions of group participation, few studies actually focus on understanding how groups develop viable operating structures. Cartwright and Zander summarize the state of the literature on structural differentiation as follows: "Much has been written about reasons that groups become structured but there have been few empirical investigations in the origin of structure as such" (Cartwright and Zander, 1961: 487).

This brings us to the current research problem undertaken in this study: How do emergent groups develop operating structures? To understand structural formation further information must be gathered regarding the process of structural differentiation. If structure is defined to be a specific configuration (i.e., form) of positions, tasks and normative relationships which are recurrent and interdependent, then structural differentiation refers to the process whereby these structural components become designated and identifiable.

Purpose of the Research

The purpose of this study is twofold. First, an attempt is made inductively to develop an analytical framework which will be useful in furthering our understanding of structural differentiation in emergent groups. Using the "constant comparative method", five emergent groups, formed during the 1970 California brush fires, are examined in order to induce important analytical dimensions for the framework.[1]

The second objective is to see whether this framework can be substantiated when applied to new empirical evidence not used in the original development. An intensive case study of an emergent group in Fairfield, Pennsylvania will serve to evaluate this framework and test its guiding hypotheses.

As a social phenomenon, group emergence is continually occurring but is extremely difficult to identify and isolate unless the researcher happens to be present or have prior knowledge of its formation. Groups form to take care of specific problems and then rapidly dissolve or become institutionalized when initial success is achieved. This ephemeral nature surrounding the emergent phase of group development creates a research barrier. One solution to this barrier is to study group emergence with a situational context that increases the probability of identifying emergence. A disaster context provides such a situation because it creates recognizable functional gaps which in turn stimulate formation of new collective responses. While this crisis context is discussed later, it is important to mention here that this study is specifically directed toward delineating structural differentiation in emergent groups that form in a crisis. Nevertheless, we contend that with few modifications the developed analytical framework can be extended beyond the confines of a disaster context and be applicable to the general process of structural differentiation. To this end we concur with Merton when he states: ". . . disasters provide a basis for new sociological knowledge that can be applied not only to cope with future disasters but to better understand the workings of human behavior and social organization under less stressful conditions" (Merton, 1969: xiii).

This study is an extension of earlier work done by this researcher which concentrated on the behavioral dimension of group emergence (Forrest, 1968). In that study an effort was made to focus on inter-actional patterns which were not yet institutionalized or regulated by a set of established structural relationships. To assist in this analysis, the emergent norm theory of collective behavior was employed to distinguish developmental phases of group formation. While the problem of structural differentiation was recognized at that time, an adequate understanding of this process was not acquired. Thus, this present study builds upon our earlier work.

Significance of Research

The questions of why one should study emergent groups might be raised. In addition to the fact that little is known about the process of group formation, groups are in their own right important because they represent a basic sociological analytic unit. Groups are microcosms of larger collectives and present a manageable focal unit in which to study and understand processes and dimensions operating in more complex social systems (Mills, 1967: 3). By studying group emergence, foundations can be laid for understanding emergence of more complex sociological entities.

Sociology purports to be interested in the study of social organization. Olsen defines social organization as the ". . . process of bringing order and meaning into human social life" (Olsen, 1968: 2). By developing a set of structural interdependencies, individuals organize their relationships to achieve mutually beneficial objectives. Since structural differentiation is concerned with establishing interdependencies, it can be viewed as a fundamental social organization process.

In addition to contributing to our knowledge of social organization, the study of group emergence and structural differentiation falls under the legitimate domain of collective behavior, a specific content area within sociology. Collective behavior has historically been interested in emergence of new groups (Quarantelli, 1970: 111). Swanson states that collective behavior focuses ". . . upon those processes in which a body not already organized for that purpose, moves from a state of social unrest toward a state of concerted action, such action becoming possible because these people evolve an organization through which they can work" (Swanson, 1970: 124). By evolving an organization a collective develops a set of structural relationships for coordinating and integrating behavior.

While social organization concentrates upon structured, institutionalized behavior patterns, collective behavior is interested in the more ephemeral, unstructured, spontaneous instances of social interaction. The study of structural formation in emergent groups bridges these two interest areas by concentrating on the process whereby amorphous, unstructured aggregates (a collective behavior interest) develop a set of identifiable and recurrent structural patterns (a social organizational interest). In bridging these two substantive areas in sociology we hope to be able to contribute to undermining ". . . all the traditional dynamic distinction between collective behavior and organizational behavior and suggest that no special set of principles is required to deal with this subject" (Turner, 1964: 384).

Outline of Chapters

The following chapter presents the design and methodological procedures employed in this research. A two-phase data collection and data analysis procedure is utilized. This procedure leads to the induction of an analytical framework from one set of data and then permits testing this framework with a different set of data to determine whether it is substantiated. A descriptive account of the California case studies is presented in Chapter II. These case studies provide the empirical evidence from which the framework is induced.

Chapter III presents a literature review of those works which influence our thinking regarding structural differentiation in emergent groups. This chapter is structured to introduce dimensions later developed in Chapter IV, the analytical framework. This framework is designed to designate important independent dimensions associated with structural differentiation--the dependent dimension. Concluding this chapter are specific hypotheses which will guide the subsequent analytical discussion.

To determine whether the framework developed in Chapter IV has any utility in explaining structural differentiation in emergent groups, Chapter V examines new empirical evidence concerning formation of the Windsor Park Flood Relief (WPFR), an emergent group formed in 1971 in Farifield, Pennsylvania.[2] This case study will indicate strengths and weaknesses associated with this framework. Finally, Chapter VI presents a summary of the research findings and makes an evaluation of the framework's analytic utility. Suggestions are made for further research which would build from this study. To assist in this end, we offer a set of guiding hypotheses.

FOOTNOTES: Chapter I

[1]The constant comparative method, developed by Glazer and Strauss, is a sociological technique which facilitates the discovery of theory from grounded empirical data (Glazer and Strauss, 1968). This methodological technique will be discussed in detail in the next chapter.

[2]Windsor Park and Fairfield are code names to preserve the anonymity of the respondents.

CHAPTER II

Study Design and Methodological Approach

This chapter presents methodological procedures employed in this study. A general background regarding the unique nature of emergent groups is first given. This is followed by a discussion of the overall research design, divided into two sections: data collection and data analysis. Given the state of knowledge regarding the phenomenon of structural differentiation, this discussion centers upon the most appropriate sociological method available, the exploratory case study. This method allows the greatest flexibility in systematically developing a useful analytical framework for understanding structural differentia- tion in emergent groups. Finally, a set of five descriptive accounts of emergent groups studied in California is presented which serve to empirically ground the subsequent analytical framework.

Background

This research is conducted under the auspices of the Disaster Research Center (DRC) of The Ohio State University. The Center's main research objective is the systematic study of organizational response to stress incurred by natural disasters. To accomplish this objective, DRC has developed a distinctive methodological procedure of sending research teams into the field to collect information from organizational officials through the use of semistructured interviews. These inter- views are tape recorded and later transcribed and typed in triplicate. Together with non-obtrusive information gathered from disaster plans, special reports, organizational charts, newspapers, etc., these data are systematically analyzed and written up in field reports and research monographs. While this study followed closely many of the Center's procedures for data collection, the unique nature of our research interest necessitated a number of major modifications in field procedures.

Emergent groups are an ephemeral phenomenon that easily escapes even the most trained observer. These groups develop rapidly, handle a problem(s) and dissolve without ever being identified or recognized. While an element of luck, "being in the right place at the right time", is a factor involved in identifying these groups, one is not totally dependent on happenstance. Before entering the field phase, certain guiding assumptions about the nature of emergence are posited. These assumptions direct initial identification efforts. They are as follows: (1) emergence occurs when a social system experiences some crisis which creates an identifiable need; and (2) emergence occurs when existing forms of organized collectivities are not able and/or willing to fulfill the need. On the basis of these assumptions, several practical methodol- ogical extensions are made.

Natural disasters present a unique opportunity to identify and study emergent processes, since they create a series of identifiable needs

within a specific geographical context. These needs often go unmet because existing organizations are either overtaxed with meeting emergency demands or rendered inactive by the disaster agent. The California brush fires provide a context which increases the probability of identifying emergent groups. Having identified a crisis context, the problem then becomes one of identifying unmet needs around which a collective effort might occur.

By first contacting individuals who have a general overview of the emergency situation in identifying these needs, time and energy is conserved. These individuals are invaluable as informants because of their ability to identify existing community needs and make assessments as to how or if these needs are being met. To find knowledgeable informants, established coordinating centers and/or emergency command posts operated by city government, police department, etc., are contacted. Having as their primary function the overall coordination of emergency recovery operations, these centers have access to an extensive communication network which provide officials with comprehensive information for decision making. These officials are contacted and asked whether they are aware of any unmet need(s) or any emergent communal responses. In one incident, information obtained lead directly to identification of an emergent group. But generally these public officials directed us to other formal organizations (e.g., Red Cross, Civil Defense, Salvation Army, etc.) which were in a more advantageous position of having access to these groups. Often only a vague delineation of an unmet need is acquired. In this case attention is directed toward organizations or agencies which normally would handle these needs. In some instances the need is in fact being met, but in other instances the organization is overtaxed and unable to handle the need; in which case the need either remains unmet, is incorporated into the task environment of another established organization, or becomes the focal point around which an emergent group forms.

By employing a "snowball" technique, which entails contacting coordinating centers, command posts and established organizations, emergent groups can be identified. However, many leads do not "pan out", leaving the researcher utterly frustrated. But when successful, prompt action is necessary since one characteristic of emergent groups is their tendency to dissolve rapidly. Instead of trying to interview informants immediately, initial contact should be confined to obtaining a brief descriptive overview and list of participants. The informant is then told that the researcher will return later to talk more extensively with him. This point is important since time is at a premium and the goal is to identify as many emergent groups as possible. Once all leads are exhausted, a more systematic data collection can begin.

Interviewing emergent group participants is quite different from interviewing individuals in formal organizations. First, problems develop because of the context in which emergent groups operate. These groups are generally housed in crowded rooms with several activities occurring simultaneously. The noise level makes concentration extremely difficult and privacy almost impossible. In all instances tape recorded interviews should be obtained. This means the quality of recording is crucial, necessitating a quiet place for a clear and distinct recording.

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Such a place also allows the informant/respondent to relax and clearly think through recent events. This researcher does not hesitate to use empty halls, maintenance rooms, the front seat of an automobile or any other spot which affords privacy and guards against background noise.

Another important factor in emergent group interviews is that interviews do not fall within a neat "nine-to-five" work schedule. This is particularly true if the emergent group has dissolved and the participants have returned to normal employment activities. More often than not (especially as concerns dissolved groups), interviews are conducted at night in the informant's home. However, this affords the advantage of readily obtainable privacy and quiet.

Studying group emergence in a disaster necessitates great field flexibility and improvisation; however, the general methods of social science are still rigorously employed. Attention is now given to the specific research design employed in this study.

Research Design

As discussed in Chapter III, little is actually known about structural differentiation in emergent groups. For this reason, it is necessary to utilize a methodological approach which will provide the greatest flexibility for imaginative improvisation in a systematic exploration of our research problem. A qualitative approach is such a methodology. Qualitative analysis is particularly suitable for exploratory research because it provides a wealth of descriptive detail, giving the analyst maximum opportunity to find clues and suggestions regarding possible analytical dimensions. As Filstead suggests: "Qualitative methodology allows the researcher to 'get close to the data', thereby developing the analytical, conceptual and categorical components of explanation from the data itself—rather than from the preconceived . . . operational definitions that the researcher has constructed" (Filstead, 1970: 6).

This study's research objective is to identify the independent dimensions associated with group structural differentiation (the dependent dimension) and to integrate these dimensions into a meaningful analytical framework. Once developed, this framework is tested utilizing an intensive case analysis of new data not used in the original development of the analytical framework.

Two distinct phases are involved in this study. The first phase consists of an inductive process which identifies dimensions and variables associated with structural differentiation. Analysis of five emergent group case studies from the 1970 California brush fires, coupled with insights gathered from findings of three previous emergent group studies, (Disaster Research Group, 1958; Zurcher, 1968; and Forrest, 1968) provide the data from which an analytical framework is induced. Phase two consists of testing this framework by employing an intensive case analysis of a group which formed during a flood in Fairfield, Pennsylvania, in 1971. With this general overview, we now proceed to a detailed discussion of data collection and analysis.

Data Collection

Besides extensive reading of materials related to our research problem, several other preparatory steps are taken prior to entering the field which directly expedite identifying emergent groups. Working under the auspices of DRC, extensive field records and general background data gathered from previous research conducted in California are available. This information is valuable for supplying names of possible informants who, by virtue of their strategic organizational positions, might have knowledge of emergent groups, e.g., civil defense director, police chief, sheriff, Red Cross director, etc. Additional information, gathered from national newspaper and magazine articles, further sensitizes us to the general social and environmental context in which emergence might occur. Besides these journalistic accounts, information regarding demographic composition, geographic peculiarities, economic variables, maps, etc., is obtained to assist in acquiring a broad understanding of the affected areas.

Data collected consists of two types: taped interviews and written documents. Interviews are open-ended and semistructured. In all cases they are tape recorded and later transcribed. Since this research is exploratory and "discovery-oriented" in nature, a premium is placed on maintaining flexibility and preserving a maximum degree of ingenuity and improvisation in the interview situation. This allows us to reformulate and modify categories as we go along, and to avoid misleading or meaningless questions.

While the interview situation allows the interviewee leeway to provide a rich description of events, the researcher must be cognizant of the possible pitfalls involved in this research technique. The interviewee is basically providing two kinds of information: subjective statements and objective statements. Subjective statements reflect the interviewee's current emotional state, his opinions, attitudes, values, and his projections as to what he might have done or would do. Objective statements are essentially empirical facts regarding what was done. According to Dean and Whyte, respondent's remarks lie somewhere inbetween purely subjective or objective statements (Dean and Whyte, 1969: 104). It is up to the researcher to become aware of the nature of the statements.

McCall (1969) provides guidelines to six possible contaminating factors which, when taken into account, assist in assessing the nature of interviewee statements. (1) What are the credentials of the interviewee? Is he knowledgeable in what he is reporting? (2) What is the repertorial ability of the interviewee? Is he able to verbalize, conceptualize and respond with self-confidence to continual probings? (3) Are there any reactive effects to the interview situation? Does the interviewee seem too helpful (i.e., telling the interviewer what he thinks he wants to hear), combative or seek the interviewer's conversion? (4) While a subtle factor, does the interviewee show any ulterior motives? Does he attempt to expose others, steer the researcher away from something or rationalize his actions or behavior? (5) Does the social context (e.g., the presence of others) constrain the person's response, barring him from giving spontaneous responses? (6) Lastly, are there any idiosyncratic factors, e.g., respondent moods, had he been drinking, was he fatigued, etc., which

might have affected the data? (McCall, 1969:133-135). While the researcher can be conscious of these factors, there is little that can be done to counteract them.

To provide a check on the validity of the data gathered, the interviewee is treated both as informant and respondent. As an informant, the interviewee is asked about others rather than himself and about specific events. It is presumed that this information is factually correct and can be considered "objective". However, this is subject to the possible contamination factors discussed above. In each case studied, at least four or more participants are interviewed. By treating each participant as both informant and respondent, a cross-check is possible which allows us to assess the statement accuracy.

In addition to eliciting "objective statements", each participant interviewed is also treated as respondent. In so doing, questions are directed toward obtaining "subjective" information on what the respondent did and thought. Our concern is with the behavior of the respondent as he carries out specific roles associated with a particular position(s) in an emergent group. Again, when possible the information is cross-checked.

While interviews are open-ended, giving the informant/respondent maximum flexibility, there is a semistructured aspect associated with each interview. An interview checklist is constructed composed of dimensions initially thought to be important with respect to structural differentiation (see Appendix A). The dimensions are derived essentially from previous studies conducted by the Disaster Research Group (1958), Zurcher (1968) and Forrest (1968), all of which dealt with some aspect of structural differentiation in emergent groups. This checklist enables the interviewer to guide the discussion along specific dimensions, yet maintain the necessary flexibility in the wording of questions. Respondents are given the freedom to reconstruct events from their own perspective; however, it is suggested that to expedite matters a chronological approach would be mutually beneficial in accurately recounting what happened. The dimensional checklist undergoes several modifications, reflecting conceptual changes made as categories become more refined and delimited. Thus, the phase two checklist closely reflects dimensions included in the final analytical framework (see Appendix B).

Local newspapers provide another important source of information and are purchased for the two weeks immediately following the disaster. While supplying a general descriptive overview of the incident, they are also a source for identifying emergent groups. Newspaper reporters covering human interest aspects of a disaster often report on local residents who organize themselves to handle some disaster-related need. These newspapers, together with national newspapers and periodicals, are closely monitored for additional materials. In addition, written documents are gathered from the groups which are studied. These include logs of transactions, meeting minutes, donation lists, volunteer rosters specifying usable skills and copies of announcements. This information serves to further understanding of group processes and activities.

Although not gathered directly for this study, data obtained from a previous study by this researcher proved very useful in developing the

analytical framework. In 1967 this writer conducted a study of an emergent group in Detroit, Michigan, which emphasized understanding the behavioral aspects of the emergent process. However, in the twenty-one interviews conducted, a general descriptive account regarding the entire emergent process was acquired. These data provide valuable insight into dimensions associated with structural differentiation.

The first phase of field work occurred October 5-15, 1970, when this researcher went to California to study the possibility of emergent responses to an extensive brush fire. This trip lead to the identification and study of five separate group responses. Three groups developed relief centers for collection and distribution of food and clothing to fire victims. A fourth group organized themselves to provide support, e.g., food, clean clothes, sleeping arrangements, personal supplies, etc., for firefighters who gathered for rest and relief at a local Civil Defense building. The last group organized and coordinated a self-help project involving local professionals: architects, engineers and contractors, who volunteered their time and talents for community rehabilitation work. All together, thirty-four interviews are used, together with written documents, to systematically induce important dimensions and variables essential in understanding structural formation of emergent groups.

Having identified important dimensions and variables, the second phase of data collection began, to gather new data which would test the usefulness of the phase one induced dimensions. On September 11, 1971, Fairfield, Pennsylvania, and surrounding communities experienced heavy flooding as a result of an intensive rainfall in a short time period. An initial reconnaissance trip was made September 17-21, 1971, to see whether an emergent group could be identified. Contact was made with a group formed to assist residents of Windsor Park, a residential community severely affected by the flood. A decision was made to conduct an intensive case analysis of this group. A second trip to Fairfield was made October 6-14, in which interviews were conducted with each group leader and with selected key workers. Key workers were identified by three or more leaders as being essential to the group's operation. In addition to these fourteen interviews, this writer had access to extensive written records kept by the group. On December 21, a follow-up trip was made to contact the group's main coordinator to find out how the group finally concluded its affairs.

To summarize, data collection is divided into two phases. Phase one focuses on collecting data which is used to induce an analytical framework to help explain structural differentiation in emergent groups. Using data gathered from a previous emergent group study in Detroit, Michigan, together with five new case studies from California, thirty-four interviews are used to induce an analytical framework. Once developed, this framework is tested using fourteen interviews gathered in Fairfield, Pennsylvania, during a second data collection phase. This data, along with written documents, is used to evaluate the framework's usefulness.

Data Analysis

Just as the data collection procedure is divided into two distinct phases, so too is data analysis. Each phase has a distinct objective requiring a different methodological approach. The first phase is

primarily inductive, while phase two stresses substantiating the framework induced from phase one. This section presents the two approaches utilized.

The "constant comparative method", developed by Glazer and Strauss (1967), provides the guiding methodological principles for the inductive phase. This method delineates a set of analytical procedures to guide a researcher's efforts in discovering from systematically gathered data those dimensions and relationships important for understanding a particular phenomenon. However, before presenting this method a few general comments regarding inductive analysis are in order.

Underlying an inductive analysis geared toward "discovery" is an assumption of trusting in one's own credible knowledge. The researcher is the only one who has lived through the research, gathering information, perceptions, and experience. The fieldworker knows <u>that</u> he knows, not only because he's been there in the field and because of his careful verification of hypotheses, but because "in his bones" he feels the worth of his final analysis. What this essentially means is that the researcher must possess confidence in his own reasoning ability, in the plausibility of the means of analysis and in the credibility of the induced framework (Filstead, 1970: 294-296).

While the distinction is made in this discussion between data collection and analysis, throughout phase one these two processes occur simultaneously. As data are gathered, analytical dimensions, categories and relationships begin to emerge. Further data collection leads to refinement and synthesis of these initial analytical impressions; there exists a <u>symmetrical</u> relationship between data gathering and analysis.

Phase One. Glaser and Strauss present four stages which comprise the "constant comparative method": (1) comparing incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory and (4) writing the theory (Glaser and Strauss, 1967: 105-113). These are seen as a process, with each step fusing into the next; however, earlier stages remain operative throughout the process. We now turn to how these steps act as a guideline in this analysis.

(1) Comparing incidents applicable to each category -- Phase one involves gathering five case studies of emergent groups which form during the 1970 California brush fires. These cases together with interview data from a similar study conducted in Detroit in 1967 provide the data for the inductive analytical phase. Each interview is read at least twice -- first, to obtain a general impression of events, processes and possible dimensions and second, to induce or identify conceptual categories. This is done by coding each specific incident into as many analytical categories as possible. Analytical properties -- i.e., ". . . its dimensions, the conditions under which its pronounced or minimized, its major consequences, the relation of the category to other categories and other properties . . ." -- associated with each category began to emerge as comparisons are made between like incidents in the same case and between cases (Glaser and Strauss, 1967: 106). An effort is made to develop an exhaustive listing of all possible categories through making continual comparisons between similarities and differences of similar incidents. By so doing, it is possible to become aware of a fuller continuum.

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(2) Integrating Categories and Properties -- As continual comparisons are made between like incidents, categories began to undergo changes. Properties associated with each category became identified and articulated. Instead of comparing similar incidents, comparisons are made between the incidents and properties of the categories which are identified through the initial comparisons. By focusing on properties instead of the incident, a clearer delineation and integration of these properties is possible. This in turn forces the researcher to begin to make some analytical or theoretical sense out of the relationships between properties and incidents.

(3) Delimiting the Theory -- This study conceptualizes "theory" in terms of an analytical framework, avoiding the premature development of a rigorous set of interrelated propositions. However, this analytical step is the same regardless of the specific "concept" used. In essence what occurs is that fewer and fewer modifications are made regarding properties and categories. Any modification that does occur is essentially geared toward developing logical clarity and discarding nonrelevant properties and dimensions.

It is essential in this stage to reduce the number of variables to a smaller set which are more abstract (i.e., higher level). This reduction is accomplished through ". . . discovering underlying uniformities between the original set of categories or their properties . . ." (Glaser and Strauss, 1967: 110). These uniformities are then formulated into a set of analytical relationships which become the basis for the analytical framework.

In the delimiting or reducing process, categories become "theoretically saturated". "After one had coded incidents for the same category a number of times, it becomes a quick operation to see whether or not the next incident points to a new aspect of the category. If yes, then the incident is coded and compared. If no, the incident is not coded, since it only adds bulk to the coded data and nothing to the theory." (Glaser and Strauss, 1967: 111). By delimiting the number of variables, chance of achieving parsimony and greater application of the analytical framework is enhanced.

(4) Writing Theory -- The end product of the constant comparative method is a formal statement of an analytical framework. This framework then becomes a guide for further data collection and analysis oriented toward testing the framework's utility -- in our case, the understanding of structural differentiation in emergent groups.

In summary, this "constant comparative method" is closely followed throughout phase one of this research, which concentrates on inducing variables from systematically gathered data. The written presentation of phase one is divided into two sections. The first section is a descriptive account of emergent groups identified in the California brush fires. This account is intended to give the reader a general understanding of the disaster event and how emergent groups developed in this context. The second section presents the final product of this "constant comparative method" -- the analytical framework. A whole chapter is devoted to developing dimensions and essential relationships which are felt to account for structural formation in emergent groups.

Phase Two. While phase one involves an inductive analytical process, phase two is concerned with a qualitative case study analysis to test the utility of the induced framework. The essential concern of this research is exploratory in nature, trying to identify and conceptualize those variables important for understanding structural differentiation in emergent groups. No attempt is made at a rigorous verification of a fully developed model or theory; hence there are no statistical measures or tests of significance applied at any point in the data analysis.

Rigorous quantitative analysis is rejected for several reasons. The nature of our data and the purposeful sampling of respondents violates many assumptions made by both parametric and nonparametric statistics. Little purpose is served in exploratory research by the application of rigid statistical measures and tests. They are simply not appropriate at this stage in the research process.

Faced with the inappropriateness of quantitative measures and tests, the most fruitful analytical approach is a qualitative one. To test the utility of the analytical framework, a case study is presented employing a descriptive and systematic analysis. Since empirical evidence is presented in its raw form, the reader is better able to draw his own conclusions regarding the frameworks usefulness. Any qualitative analysis must strive to reach a balance between the application of abstract and general concepts while also employing as evidence empirical descriptions of the setting and quotations from participants. An advantage of this intellectual dissection is that new insights are achieved and additional generalizations are possible. The assessment of the framework is valid to the extent that this balance is achieved.

Summary

Figure 1 summarizes the various research stages followed in this study. The first stage consists of collecting data concerning five emergent groups in California. This data together with data and findings from previous emergent group studies are utilized to induce an analytical framework. Employing the constant comparative method (step 2), a systematic data analysis is conducted with the end product being the development of the framework. This framework (step 3) is conceptualized in terms of dependent, intervening and independent dimensions. These dimensions are employed to suggest possible causal linkages. The next step (step 4) involves collecting new data regarding an emergent group in Pennsylvania. These data are utilized for a qualitative case study which assesses the framework's analytical usefulness.

The following discussion presents a brief overview of five emergent groups studied during the aftermath of the 1970 California brush fires. This discussion is preceded by a descriptive account of the brush fire disaster, giving the reader necessary background information for understanding the context in which the groups emerged. These cases are used to empirically ground the analytical framework developed in Chapter IV.

The Southern California Fire of September 25, 1970. Abetted by drought, arsonists and fierce Santa Ana winds, the worst fire in Southern California's history broke out on Friday, September 25, 1970. The next

Phase One   Phase Two

Data
Collection:

(1) Five California Case Studies   (4) Fairfield, Pennsylvania
                                               Case Study
    Data from Previous Emergent
    Group Studies

Data
Analysis:

(2) Constant Comparative Method   (5) Qualitative Case Study
                                               to Assess Framework's
                                               Analytical Usefulness
                    (3)

                                          Induced Analytical Framework
                                              Dependent Dimension
                                              Intervening Dimension
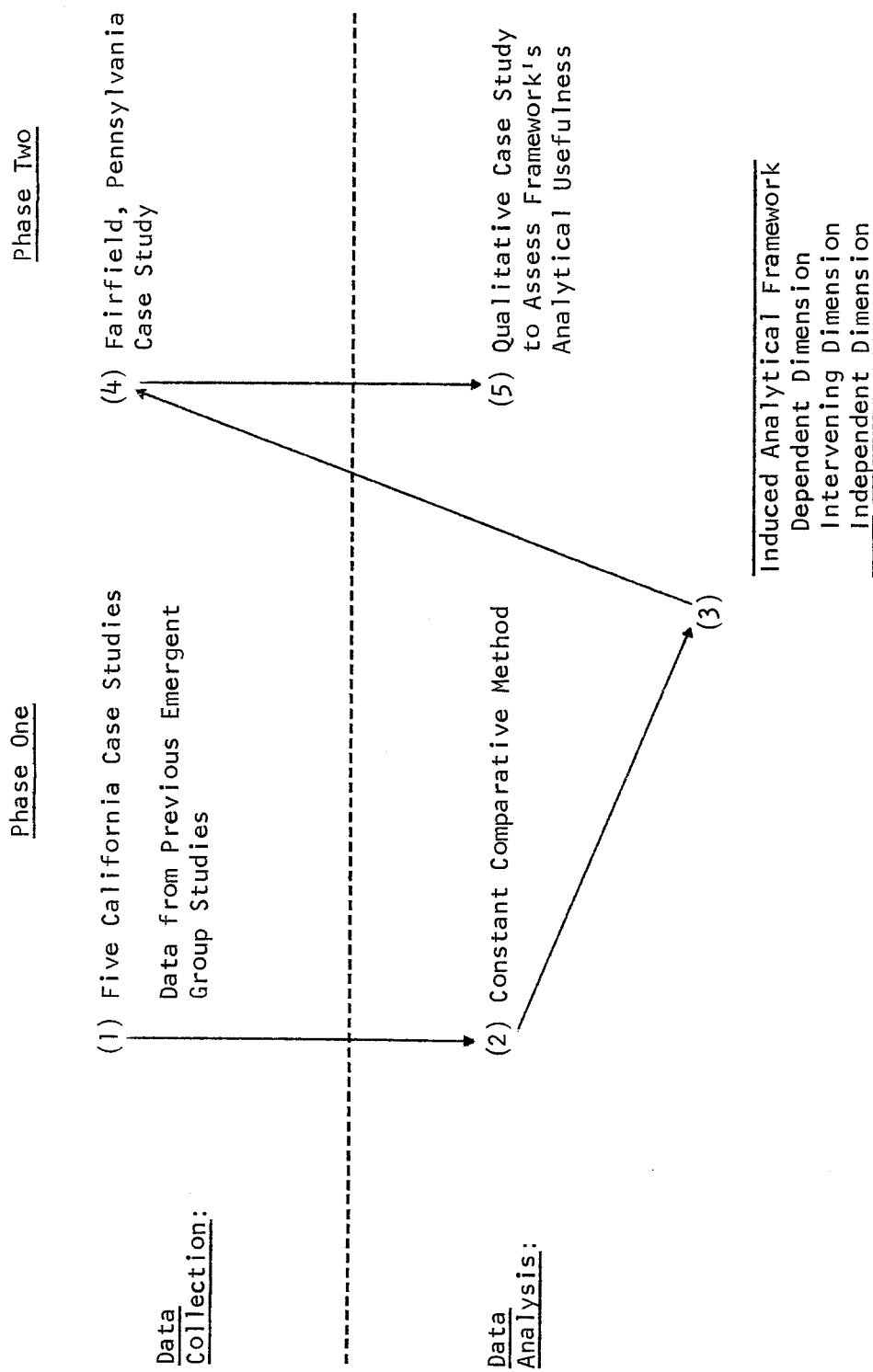   Independent Dimension

Figure 1.   Research Design

ten days saw twelve separate fires destroy 525,000 acres of brushland
(an area more than half the size of Rhode Island), leaving 13 killed, 350
injured and an estimated 1,500 buildings destroyed and damaged. Damage
totaled $200 million. These figures include destruction of 400 houses,
leaving 450 families homeless. Most of the damage was contained within
four national forests: Cleveland National Forest, San Bernardino National
Forest, Angeles National Park and Los Padres National Forest.

There were three major reasons this fire started, reasons that are
inherent in Southern California life. First, the rolling hills of Southern
California are covered with a dense brush called chaparral, a scrub ever-
green. Chaparral was the fire's source of fuel, causing a heat energy out-
put of 2,500 Hiroshimas. Second, the affected area is virtually a desert.
At the time of the blaze it had not rained in almost 200 days (since March
4). This, coupled with a daytime humidity of 5 to 10 percent and tempera-
tures of 100°F, made the dense chaparral extremely dry and subject to
immediate explosion. Finally, the massive brush fires that erupted were
aggravated by a dry, northeast wind from the Mohave Desert called the Santa
Ana or "devil" winds. With gusts at times reaching 100 miles per hour,
these winds not only contributed to the dry, arid conditions that
precipitated the fire but were also the major factor preventing fire-
fighters from early control of the blazes. In addition to the climatic
conditions there were a number of reported instances of arson. Arson is
believed to be the cause of the San Bernardino blaze and perhaps five
other minor fires.

The first ignition of the California fires began about 10:30 a.m. on
Friday, September 25. Two major fires, in Malibu and Newhall, erupted
about 25-30 miles from downtown Los Angeles along the Pacific Ocean. The
Malibu fire started at a public dump, where embers from burning rubbish
spread to the surrounding brush. Spreading across 50 acres in five minutes
these flames moved toward the sea. Another fire broke out to the north
near Newhall, in the dry foothills of the Santa Susana Mountains. Mean-
while, a third and fourth blaze were starting in Ventura County. These
four fires combined to create a massive fire wall that extended for 30
miles north of Los Angeles. An army of firefighters, aided by some 2,000
convicts, fought this combined blaze. This was one of the worst of all
the Southern California fires, extending from the Pacific Ocean at Malibu
to the Los Angeles National Forest near Newhall and burning approximately
120,000 acres of brushland.

Another fire began to the south in Cleveland National Forest, 50 miles
east of San Diego, when sparks from a power line spread to the brush.
The blaze quickly moved westward to El Cajon and Spring Valley. As of
Monday, September 28, the firefighters had stopped the westward progress
of the fire, but it proceeded southward instead, burning 185,000 acres and
destroying about 250 homes. In addition, between 50,000-60,000 people
were forced to evacuate the outskirts of San Diego.

As the fire took its toll, federal, state and local agencies and
organizations began to mobilize their resources to provide relief and
assistance. Teams of federal and state assessors swarmed into the stricken
area. The Office of Emergence Preparedness announced that federal funds
would be available to supplement state and local resources. This assistance

took the form of long-term, low-interest loans for those who lost homes, businesses and farms; removal of debris at federal expense; special unemployment compensation for those displaced from their jobs because of the fire; use of money from the President's disaster fund for the repair or replacement of public property affected by the fire; and repair of flood control structures and cleaning of flood channels. Also the state Division of Forestry announded that a million pounds of seed would be made available for re-seeding burned lands. The Los Angeles County Board of Supervisors passed an emergency ordinance permitting persons whose homes had been destroyed to move trailers onto their property while they were rebuilding. Countless other agencies, organizations and volunteer associations assisted in restoration activities. While formally established organizations lent their assistance, individual citizens assisted their friends and neighbors in providing shelter, food, clothing, debris clearance, financial assistance and numerous other necessities. In many instances, this assistance blossomed into a fairly sophisticated organized group effort which persisted over several days and weeks. It is this emergent group response which is the study's central focus.

No doubt there were many emergent groups that formed in response to the California fires; but because of their ephemeral nature and the necessity of "being in the right place at the right time," this researcher was able to identify only five such instances. These five cases provide the empirical evidence from which we induced an analytical framework for studying group emergence. To give the reader an overview, a brief description of each case is presented. These cases are utilized later to empirically ground our analytical discussion.

San Diego Support Group. On Sunday, September 27, 1970, evacuation orders were given to residents east of El Cajon, California, and south of a 30-mile stretch of Highway 80 -- this area lies east of San Diego. Evacuees were requested to report to the San Diego County Civil Defense Headquarters for registration and assistance. Swamped with mobilizing and coordinating resources from local, state and federal agencies, civil defense had neither time nor personnel to handle evacuee registration adequately and thus turned to the local community for assistance. Volunteers responded to this request by developing an organized group effort to handle evacuee registration and support activities for firefighters. This group was separate from civil defense, developing its own independent leadership and making its own decisions; hence it is viewed as not an extension of civil defense operations but rather as an autonomous operating group.

Mrs. B., vice president of a local women's club, heard from a friend of the need for volunteers to assist in registering evacuees. Accompanied by her husband, she arrived at civil defense headquarters (CDHQ) Sunday afternoon to find that several others present had already begun to set up tables and card files to help process incoming evacuees. Evacuees began to stream into the building late Sunday afternoon, filling corridors and creating a general state of confusion. At this point, Mr. B. jumped onto a table and asked the crowd to line up behind tables so that an orderly registration could proceed. From this point on, Mr. B. was consulted for directions and decisions since he was aggressive enough to take charge.

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As evacuation orders were issued over radio and television, individual citizens began telephoning CDHQ volunteering to take animals (primarily horses) and to provide shelter, food and other supplies for fire victims. The content of these calls were recorded on cards noting the donor's name, address, telephone number and nature of donation. It shortly became apparent that more telephones were needed and four additional lines were immediately installed. In addition to these calls, food, clothing, medical supplies, blankets and personal items (toothpaste, soap, shaving equipment) began arriving at CDHQ. A number of young men volunteered to unload these items from trucks and cars and to stock them in a designated storage area in the building. It was felt that all items should be inventoried, recording the name, address and telephone number of the donor.

By Sunday evening evacuees had stopped coming in and those present had a breathing spell. This time was further spent organizing activities and making specific task allocations. Mr. B. felt that he needed assistance and called upon a close friend, Mr. R., to see if he would volunteer his time. Mr. R., an insurance salesman with flexible working hours, agreed. He arrived and was briefed by Mr. B. regarding the operation and problems. The greatest problems at this time were answering and recording telephone calls, and processing the continuous influx of resources. Working together, Mr. B. and Mr. R. began assigning workers who seemed dependable and efficient to specific tasks, e.g., developing and organizing a supply room, an emergency medical area, a home referral system and a system of food runs to transport sandwiches and coffee to firefighters. An agreement was reached that Mr. B. would become night coordinator while Mr. B. would supervise daytime activities.

On Monday, the demands placed on the group began to change. Instead of handling evacuation registration, firefighters began arriving for food and a place to rest. The whole internal group structure was reorganized to meet this demand by acquiring cots and personal toiletries, maintaining a kitchen and developing a system to launder firefighters' clothing while they slept. A volunteer was assigned to gather and bag clothing and to work out a system to transport it to and from laundromats where volunteers from local women's clubs would wash them.

By Wednesday, the group operation began to take definite form. Departments were set up to take care of specific task areas. Five basic activities crystallized: general support and assistance, providing food and clean clothing for firefighters; a medical department staffed by two nurses who administered first aid; stockroom to receive, record and dispense all material resources; a food and coffee relay system, which operated between CDHQ and the firefighters; and lastly, a communications department which received, sent and recorded all incoming and outgoing telephone calls. Mr. R. and Mr. B. coordinated and integrated the activities of the various departments. Fifteen persons were present at all times to staff the operation.

One week from the day it began, the decision was made to close down the San Deigo Support operation. The fire had been contained and residents had returned to their homes. Material resources, gathered throughout the emergency, were dispensed to other organizations and agencies who would continue to assist fire victims.

Malibu Community Action. Malibu is a community composed of many diverse social, economic and political interest groups, e.g., homeowners vs. renters, beach residents vs. hill residents, professionals vs. business interests, "hippies" vs. "establishment", etc. In the past these groups have split on many community issues; however the devastation wrought by the fire buried these differences, at least for a short time, and brough these groups together to confront a common crisis situation. To determine what the community might do a meeting was held after the fire, on Tuesday, September 28, 1970, to explore the extent and kind of community aid that would be given. In addition to concerned citizens, representatives from the Chamber of Commerce, State Assembly and State Senate, County Supervisors, Township Council, Save Malibu Canyon Committee and Board of Realtors attended the meeting. This gathering arrived at a threefold purpose: (1) establish a disaster assistance program, (2) set up a flood control program, and (3) establish a disaster preparedness program.

Since it was agreed that circumstance made it imperative to transcend past differences, a new group was formed to organize total community disaster relief effort. Nominations were made to select a coordinator. Mr. H., a local architect and member of the Township Council, Chamber of Commerce and Save Malibu Canyon Committee, was elected coordinator. He was particularly appropriate for this position since he held membership in many opposing groups, somehow jockeying their inherent differences. Before accepting this position he stipulated that since he was opposed to meetings and rigorous committee structure he would consent only if he was given the freedom to take complete charge and more or less "rule by edict". This was agreed.

Mr. H. organized several standing committees: medical, disaster program, architects and builders, soil control and erosion, and emergency assistance. These committees existed without designated chairmen or any rank-and-file membership. In essence they were merely convenient categories in which to organize specific tasks. Through previous community involvement, Mr. H. had learned which individuals were hard workers and dependable and it was to these persons that he turned for assistance. Instead of asking someone to be a committee head, he would give him a specific job assignment, confident that it would be carried out. To assist in coordinating these activities, a desk was established in the civic center to receive telephone calls and relay information. A woman volunteered to perform this duty.

The major resource available to the group was the professional talents and expertise of the residents. Residents donated their services to fire victims confronted with the task of rebuilding, e.g., architects and builders assisted in the design and reconstruction of homes. In addition to emergency assistance, the group's major goal was the long-term community planning and preparation for the possibility of a future mudslide disaster. Great emphasis was placed on reseeding and preparing the soil to prevent erosion and mudslides which might result from heavy winter rains. Fortunately for the community, the residents had the professional resources to confront these problems. Mr. H. envisaged group operation through January, after which the major mudslide threat would pass.

Malibu Emergency Center. The Malibu Emergency Center had its early beginning at a local church which donated its premises for the collection

of food and clothing to be used to assist 115 families who lost their homes. Instrumental in establishing the center was Mrs. C., a long-time resident of Malibu and active member in a number of local organizations. Mrs. C. had met a friend who had just escaped from her home with only the clothing on her back. Realizing that many individuals were probably in the same straits and would be needing food and clothing, Mrs. C. inquired how she could be of assistance. She was told that Reverend G. had volunteered his church to collect these supplies but that the church could not keep them for more than a couple of days. Contacting Rev. G., Mrs. C. found out that the immediate need was another building to house the collected clothing and food.

Mrs. C. returned home and made numerous telephone calls in an endeavor to locate and obtain an empty building. After having called the governor's disaster office, local stores, military installations and countless other organizations, she finally, with the assistance of the sheriff's office, obtained the use of the former sheriff building. Since it was essentially an empty shell, Mrs. C. contacted local department stores asking them to donate clothing racks. These were easily obtained. One store heard a radio announcement concerning the establishment of the center and donated plastic bags, tools, hangers and paper supplies. Mrs. C. contacted a local lumber company and enlisted their cooperation in providing lumber and cement blocks to construct shelves. Mrs. C. and her husband and children then prepared the building to receive clothing and food from the church. A local trucking firm provided transportation and personnel to move the supplies.

Announcements were made over the local radio and in newspapers regarding the establishment of the center. These announcements directed resources and fire victims to the building which was now called the Malibu Emergency Center. The center was staffed with volunteer women coming from various church groups. Most of the women had worked together on previous community and church projects. Mrs. C. asked Mrs. E. if she would become co-chairman and take charge in organizing volunteers while she devoted her own attention to contacting other organizations and agencies to obtain household supplies and equipment for fire victims.

Past experience in thrift-store shopping greatly helped Mrs. C. in organizing the center. She had learned to evaluate clothing with respect to size and quality and became fairly accurate at determining if a particular item would fit a specific individual. Drawing from this experience, she organized the center in terms of a thrift shop.

It became apparent to Mrs. C. that to insure that clothing and food donations went only to fire victims, rules and regulations were needed to properly identify and verify individual need. She obtained a list of all burned-out families from the fire department. This list was used to verify families as being victims. Identification cards were issued to each family, recording their previous address, present address, phone number and a list of all items they needed. The family kept one card for identification purposes and the center kept another for matching family needs with available resources.

Like the Malibu Community Action Program, Mrs. C. envisioned that the center would operate through January, which was the rainy season.

Since the fire burned most of the surrounding vegetation there was imminent danger that heavy rains would cause mudslides and another major disaster. If a mud disaster were to occur, the center would already have the resources to assist affected families. Eventually, Mrs. C. hoped that one of the women's clubs would take over the operation and maintain a thrift shop. She felt that this might be a worthwhile activity for the local Lions' Club auxiliary, of which she was president.

Harbison Canyon Center. Harbison Canyon is a small, rather isolated community of several hundred families. Everyone who lived in the Canyon was forced out by the fire on Sunday, September 26, 1970, leaving only firefighters behind to battle the blaze. On Monday morning, when residents were allowed to return, people began immediately to assess their own and the community's needs. Since they were isolated, cooperation was a nessity if the problems were to be effectively handled. Having secured the safety of her home and family, Mrs. C., a local resident, felt that the most appropriate action she could take would be to open the thrift shop she normally operated. She contacted a number of her friends and members of the women's club of which she was president, and asked if they might assist in turning her thrift shop into a relief center for fire victims.

They notified the mass media of their effort and an announcement was made over the radio and television stating that a Harbison Canyon relief center had opened and that individuals wishing to donate food, clothing, and household supplies could bring them to the thrift shop. The response was overwhelming and it became apparent that the thrift shop was inadequate to store these resources. Mrs. C. checked with community officials and obtained the use of the community center. A local resident donated his truck and moved food, clothing, furniture, etc., to the community center, leaving the excess to be stored at the thrift shop.

With the assistance of five other women and several short-term volunteers, Mrs. C. organized a clothing and food collection and distribution center. Since there were only five or six individuals involved at any one time, there was little division of labor. Participants more or less decided what needed to be done and did it. Mrs. L. was designated to be in charge in Mrs. C.'s absence; however, Mrs. C. took upon herself the responsibility for authorizing the dispensing of resources. In order to work with civil defense, Red Cross and other agencies, it was necessary that there be an "official" person with whom these organizations could verify the legitimacy of requests they would receive from the Harbison Canyon Center. In turn, Mrs. C. would be responsible for signing receipts stating that resources were received. Although most everyone knew one another, a system was developed to verify victims by checking a list of fire victims provided by the post office.

Several days after its initial formation the group's activities stabilized to a 24-hour operation, providing coffee and donuts for fire-fighters and food, clothing and household goods for fire victims. At the end of the first week, a regular 9 a.m. to 9 p.m. schedule was adopted and an effort was made to develop specific work schedules utilizing volunteer help from various women's clubs. It was felt that the center should maintain a limited operation through the fall and rainy season to assure the community emergency resources for possible flooding and mudslides.

Crest Fire Victim Center. Crest is a small community located on a hilltop west of San Diego, California. Residents of Crest were asked to evacuate Sunday afternoon when the community was directly threatened by the brush fires. Upon returning late Monday, residents found their homes buried in ashes and/or damaged by fire. The locus of activity centered around the fire station with the fire chief coordinating the community's relief and restoration efforts. By Wednesday morning, having gone without sleep, the fire chief realized that a more organized effort was needed. He called a meeting for Wednesday afternoon, asking local community leaders and other interested residents to attend and volunteer their assistance. Mrs. S., president of the PTA and treasurer of the women's fire auxiliary, attended the meeting and volunteered to take charge of local relief efforts. Food, clothing and household goods were arriving and needed sorting and organizing for distribution.

Mrs. S. called Mrs. F., president of a local women's club, and obtained permission to use the Crest Women's Clubhouse. All donations were to be taken to the clubhouse, where Mrs. S. organized a number of volunteers into an efficient operating group. Mrs. S. had a unique background which assisted her in this effort. Crisis situations were not new to her. Having lived in Hungary during the 1956 revolution, she had learned to deal with people who had suffered great loss. This ability, coupled with a business knowledge obtained from running her own dress-designing business in the U. S., assisted her to rapidly mobilize, organize and coordinate an operating group. Acquainted with accounting procedures, Mrs. S. immediately set up accurate record-keeping, recording donations received, items distributed and content of telephone calls. Individual files were created for each burned-out family, registering previous address, present location, family composition, unusual hardship factors and specific needs. In addition, a record was kept of assistance accorded each family.

Establishing a working relationship with one specific civil defense representative, Mrs. S. was able to quickly legitimate the center's activity to civil defense, which in turn assisted in informing other agencies and organizations about the center. Civil defense provided the center with a list of relief agencies having available resources and did much to assist Mrs. S. in obtaining needed resources. Countless other organizations became involved with the center. In particular, the American Legion provided their meeting hall as a warehouse for surplus clothing and food and organized a convoy of 15 trucks to transport these goods to and from the center.

In organizing volunteers, Mrs. S. relied on her own evaluations, gathered through previous contacts, to assign responsible persons specific tasks which would maximize their talents. Somewhat authoritarian, she maintained complete control over the entire operation, making all necessary decisions. In order to protect the center and fire victims from exploitation by those seeking to make a "fast buck", Mrs. S. found it necessary to make a number of rules: first, no one should speak out or give any information to news reporters, business concerns, or other inquirers. All news releases, press contacts and information were handled through Mrs. S. To assure that all requests were legitimate, each order for food, clothing, housing furniture, etc., had to be signed and approved by her.

One major problem faced by the center was assisting families in locating temporary housing. Rents in Crest were considerably lower than rents for available housing. While considering possible solutions to this problem, a number of churches were simultaneously volunteering their assistance to civil defense, who in turn referred them to the Crest center. Accepting this assistance, Mrs. S. convinced church groups to sponsor fire victims by providing needed rent money, household items and other assistance. An elaborate sponsoring system was developed, coordinating church resources with individual family needs. Some church groups sponsored up to ten families. This program proved very successful. In sum, the Crest Fire Victim Center established a very effective relief operation, utilizing ten core volunteers and hundreds of other volunteers and donors. As specific needs were met, activities were dropped. The center's operation was projected to last about a month, with surplus resources to be donated to charitable organizations.

Summary

This chapter has presented the research design and methodological approach utilized in this study. Essentially, the design consists of an exploratory study which attempts to induce a useful analytical framework in order to understand structural differentiation in emergent groups. The development of the framework comprises Phase I of the study; while Phase II concentrates on collecting new data for determining whether or not the framework has any utility when applied to new empirical data. Lastly, a series of case studies were presented which form the basis upon which the framework was developed. The data from these studies are used to empirically ground the dimensions comprising the framework developed in Chapter IV.

CHAPTER III

Literature Review

This chapter surveys literature which influenced and directed the development of an analytical framework used in understanding structural differentiation in emergent groups. In developing this framework a wide range of sources are drawn upon to assist in conceptualizing structural differentiation. For inclusion in the framework each source has to be congruent with a general systems perspective. To present an exhaustive literature review of each dimension and variable is beyond the limits of this research. Therefore, we confine the subsequent discussion to only that literature which has directly influenced our thinking. This discussion is divided into three major sections: (1) the general theoretical perspective which underlies the entire framework; (2) those works which contribute to delineating independent dimensions associated with structural formation; and (3) literature which assists in conceptualizing the dependent variable -- structural differentiation.

General Framework

Functional Analysis

This study's research problem is essentially structural in that the concern is with understanding how newly formed groups develop identifiable structural relationships. In an attempt to understand this process existing sociological perspectives are turned to for guidance. Considering the structural nature of our interest, attention is first directed toward a functional perspective. "The intellectual fundament of functional theory . . . is the concept of a system." (Gouldner, 1959: 241). Social entities are conceptualized as <u>systems</u> comprised of interrelated and interdependent component parts.

> The most general and fundamental property of a system is the interdependence of parts or variables. Interdependence consists in the existence of determinate relationships among the parts or variables as contrasted with the random-ness of variability (Parsons and Shils, 1951: 107).

Thus component parts specialize in one or more aspects which contribute to accomplishing the systems objective or end. This division of labor demands that different component parts perform different activities for the sake of the whole. These interrelated parts comprise the structural elements of any system. Groups are conceptualized in this research as "micro-systems" and are treated within the general systems rhetoric. According to Mills:

> Small groups are a special case of the more general types of systems, the social system. . . . Through careful examination of these microsystems, theoretical models can be constructed and then applied to less assessible societies for further test and modification (Mills, 1967: 2-3).

Two basic aspects of the structural functional approach must be acknowledged for providing essential underpinnings for our own subsequent analytical framework. First is the assumption that all human behavior is goal directed. Goals provide the foci around which relationships become ordered. By ordering relationships, an identifiable structure emerges which interrelates component elements of any system. Secondly, all systems are viewed as having to confront four functional problems: goal attainment, adaptation, integration and pattern maintenance (Parsons, 1951: 26). Meeting these four problems provides the "raison d'etre" for structural differentiation. The relationship between the functional imperatives and structure will be dealt with in the analytical chapter (IV).

While having great analytic utility, a functional approach to social analysis is not without severe limitations. Lockwood (1956), Barber (1956), C. W. Mills (1959), Dahrendorf (1959) and others claim that this perspective is essentially analytically static -- emphasizing stability, integration and equilibrium -- while neglecting instability, conflict and disequilibrium, which they feel characterizes social phenomenon. The critics of functionalism view social reality as a series of dynamic processes constantly in a state of change and conflict.

While never fully able to answer its critics, functionalism has acquired a more "dynamic" quality in the work of Walter Buckley (1967) and other cybernetic theorists, e.g., Norbert Wiener (1954). Buckley focuses upon the cybernetic or self-adjusting nature of social systems. A modern systems approach attempts ". . . to get at the full complexity of the interacting phenomenon -- to see not only the causes acting on the phenomenon under study, the possible consequences of the phenomenon, . . . but also to see the total emergent processes as a function of possible positive and/or negative feedback mediated by the selective decisions, or 'choices' of the individuals and groups directly or indirectly involved." (Buckley, 1967: 80).

Central for this research is the notion of "feedback", a self-monitoring process whereby a system makes necessary adjustments and adaptations. Homans (1950) first identified the significance of this relationship between environment and a group and introduced the concept of "feedback"; however, it was not until Buckley and other cybernetic theorists that the ramification of feedback became more clearly articulated. Involved in feedback is a decision-making process whereby alternatives are articulated and assessed and choices are made. These choices result in action that continues to develop and modify systemic relationships. It is through the interaction (feedback) of focal systemic units and the external environment that structural relationships become fully crystallized.

Mediating this feedback process is a subprocess of decision making. Decision making is essentially a process whereby alternatives are considered and a choice made which is manifested in a particular action commitment. The works of Taylor (1965), Simon (1968), and March and Simon (1958) provide the general guideline as to how decision making is conceptualized in this research.

Discussions of decision making are predicated upon a rationality assumption in which decision makers have access to all necessary information and are able to articulate all possible alternatives. However, in reality man is constricted by informational, intellectual and situational limitations, all of which restrict his ability to make choices. Both Barnard (1938) and Simon (1957) recognized these limitations and conceptualized decision making as occurring within a context of "bounded rationality". Simon states: "The capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problem whose solution is required for objectively rational behavior in the real world . . ." (Simon, 1957: 198).

While quality, accuracy and availability of information all contribute to restricting decision making, Snyder and Paige (1958) have pointed out that time pressures or a sense of urgency also short-circuit decision making. As pressures mount for quick decisions, fewer alternatives are considered, less information is sought and fewer individuals participate in making decisions. Thus a sense of urgency, particularly exemplified in a disaster context, further limits the ideal rationality often associated with decision making.

In his discussion of synthetic (emergent) organizations, Thompson (1967) makes perhaps the most pertinent limitation regarding emergent groups and decision making. Synthetic organizations arise in crisis situations and are characterized as being "instrumental". Decisions are made on a pragmatic basis, with the primary concern being "getting the job done" rather than obtaining any degree of efficiency. This results basically from the fact that ". . . at the same time it (synthetic organization) must assemble and interrelate the components . . . it must do all this without benefit of established rules or commonly known channels of communication" (Thompson, 1967: 53).

In sum, a general systems approach provides a guiding perspective for developing an analytical framework to understand structural differentiation in emergent groups. The cybernetic or feedback process associated with systems provides the dynamic aspect to systems analysis and is central in the subsequent analytical framework as an intervening dimension. With this general overview, we now turn to that literature which assists in identifying and conceptualizing independent dimensions or variables associated with structural differentiation.

Previous Patterns and Attributes. Few studies have dealt directly with structural differentiation in emergent groups. However, the Disaster Research Group (1958) did conduct a study that dealt with this phenomenon. A descriptive case study was conducted of a situation in which 800 persons became stranded in a roadside restaurant during a severe snowstorm. In order to maintain the group, a division of labor (structure) had to develop to handle planning, external communication, internal communication, rescue, cooking, serving, cleanup, medical care, and so forth. One major conclusion of this study is that emergent behavioral responses are not totally discontinuous from pre-existing social patterns. It substantiates the idea that individuals utilize their previous experience, knowledge and skills in assuming new roles in an emergent social structure. Individuals who normally fill leadership positions assume and/or become designated leaders in the new group. Women fill traditional supportive

roles, such as taking care of the children, cooking, and nursing the sick;
while men perform heavier task functions, such as cleanup and rescue work,
and assume overall leadership responsibilities. Previously existing
attributes which individuals bring to the group are utilized in allo-
cating new positions in an emergent structure. These attributes provide
necessary legitimation which enables a participant to either assume or
become designated to a particular position.

Existing individual attributes become an important independent
dimension in the subsequent analytical framework. Along this same line,
studies done by Form and Nosow (1958) and Form and Loomis (1956) of the
Flint-Beecher tornado also recognize that there exists a degree of
continuity between old and new emergent systems. Form and Nosow were the
first to identify emergent groups in disaster relief activity. They
focused primarily upon "spontaneous" rescue groups which formed to carry
out search and rescue activity. Upon conclusion of the study they
decided to rename "spontaneous" groups "emergent" groups, feeling that
the term "emergent" better conveyed the idea ". . . that the relation-
ships among members of any group are tied to a previously existing
social system" (Form and Nosow, 1958: 257).

Focusing on the same event, Form and Loomis studied the emergence
of a disaster social system. They likewise found continuity between
emergent social relationships and prior relationships, stressing the
importance of the prior organizational and cultural context and its
impact upon an emergent disaster social system. "In conclusion, the
Flint-Beecher tornado materials demonstrate that community responses and
disaster may be better understood in terms of the social roles which its
members play in the emergent social systems which are organically related
to previously existing social systems" (Form and Loomis, 1956: 183).

Studies done at the Disaster Research Center by Quarantelli and
Dynes (1967), Paar (1969) and Forrest (1968) also recognize the impor-
tance of emphasizing continuous aspects rather than discontinuous
aspects of emergent social phenomenon. Quarantelli and Dynes emphasize
that emergent behavior is a mixture of institutionalized and noninsti-
tutionalized behavior, while Paar more specifically tries to understand
emergent responses by focusing upon the social, cultural and structural
conduciveness present in the pre-existing community context. Forrest's
study of an emergent group formed during the 1967 Detroit civil disturbance
emphasizes the importance of previous interaction patterns upon the group's
composition.

> In every crisis situation there are always individuals who
> seek to interpret and find support from significant others
> in order to cope with and interpret the new situation . . .
> It is in these prior interaction patterns that individuals
> normally turn to find a means to restructure the situation
> (Forrest, 1968: 40).

These DRC studies all support the idea that emergent groups are not
spontaneous and unique but are better understood if viewed as continuous
outgrowths of institutionalized behavioral patterns.

There are several other miscellaneous disaster studies which support this "continuity" theme. Zurcher (1968) in a study of the 1966 Topeka tornado focuses upon the development of ephemeral roles, i.e., the set of behavioral expectations associated with a transitory position in an emergency ad hoc social structure. He finds that ". . . people move toward roles which fit easily with their pre-existing roles" (Zurcher, 1968: 67). Danzig and Siegal's (1955) study of emergent leadership in a disaster evacuation drill demonstrates the influence of pre-existing roles upon the subsequent role differentiation in emergent situations. They find that individuals who assume leadership positions are older, more educated and normally perform supervisory roles.

While the above discussion focuses on continuity of emergent behavior in a disaster context, several studies in a "non-disaster" context further support this relationship. The field of collective behavior emphasizes the importance of previous interaction patterns and attributes as crucial independent dimensions (Turner, 1964). Collective behavior traditionally has been interested in the emergence of new groups (Turner, 1964; Quarantelli, 1970). In the development of the emergent norm approach to collective behavior, Turner stresses continuity between formal institutionalized aspects of social behavior and spontaneous emergent noninstitutionalized behavior. For instance, previous inter-action patterns, e.g., friendships, kinship, colleagues, etc., accounts for the pattern of interaction that occurs when individuals seek out others to interpret an undefined crisis situation. These previous relationships ". . . can enhance otherwise insufficient action tendencies" (Turner, 1964: 393).

Coyle (1930), in one of the few works that directly treat group formation, recognizes the importance of the ability to articulate a situation to others as a key variable in the differentiation of leader-ship. It is the ability to ". . . bring to the consciousness and express the inarticulate interests of a large number . . . which . . . strikes the spark which starts organization" (Coyle, 1930: 29).

Studies done by Klein (1956), Bennett and Tumin (1949), Burns (1958) and Bates (1957) all designate the linkage between pre-existing and emergent behavior patterns. Perhaps this section can best be summarized by a quote from Bates:

> . . . actors bring with them to the situation, not only
> their peculiarities as individuals but a vast sphere
> of learned responses drawn from their experience in group
> situations with various social positions, and the roles
> and norms that comprise them. They will tend to begin
> fitting these known responses, learned in other situations
> with other groups, to the new situation in newly evolving
> group structures (Bates, 1957: 110).

Goal Commitment. An underlying assumption of this research is that behavior is goal directed. While this assumption is implicit throughout, it is useful nevertheless to treat goals explicitly since their specific nature directly affects the character of any subsequent structural differentiation. Scott (1964) presents a detailed discussion of goal

specificity as related to structure, emphasizing ". . . that an organization is a goal directed structure and that the specific goals pursued will determine in important respects the characteristic of the structure" (Scott, 1964: 490). Eisenstadt (1959), Parsons (1951) and Etzioni (1961) further substantiate this relationship between goals and structure.

Goals are simply the agreed-upon end or objective sought by a group. Cartwright and Zander (1962) present a good summary of the literature on group goals. Small group literature focuses upon ". . . the way in which individuals develop goals for a group . . .," and how goals for individuals become converted into goals for a group (Cartwright and Zander, 1962: 403). In their summary of the literature they point out that group goals are ". . . an essential feature . . . that . . . steers group activities toward a preferred location" (Cartwright and Zander, 1962: 403).

The central concern here is with the particular effect that a goal commitment has upon the formation of group structure. To assist in this direction, March and Simon (1958) make a useful distinction between operational and nonoperational goals. An operational goal is an end that can be realized through a particular sequence of actions; nonoperational goals do not have a clear reference to any particular action sequence. Empirical consideration necessitates that this research be restricted to focusing upon operational goals; however, ". . . the content of a group's goals, whether operational or not, may have broad ramifications for the characteristics of the group" (Cartwright and Zander, 1962: 410).

Perrow (1970) categorizes goals into six types with respect to two specific referents. Goals refer to either external referents: societal goals, output goals and investor goals; or internal referents: system goals, product goals and derived goals. Since this research is concentrating on internal group dynamics the main concern will be with goals having internal referents. Specifically, the central focus is the relationship between goal commitment and the subsequent differentiation of a task structure.

Lastly, with respect to goals we want to emphasize the phenomenon of goal succession or displacement. This issue arises when a group achieves its initial objective. Sills (1957), in a classic study of goal succession, looks at the National Foundation of Infantile Paralysis after it had achieved its major objective, i.e., the elimination of infantile paralysis. Three options were open to the Foundation: (1) to go out of existence, (2) to continue to operate on a limited scale assisting people already afflicted, or (3) to turn its attention to another health problem. The last option was taken, with the new objective being the elimination of birth defects. What Sills points out is that organizations become committed to modes of operation which become as highly valued as the ends. This commitment to the organization leads to a search for new objectives (ends) to preserve organizational operations (means). This same dilemma confronts emergent groups but, as is discussed later, situational circumstances heavily affect the group's options.

Environmental Inputs. Returning for guidance to a modern system perspective, a key dimension to be considered is the importance of the environmental inputs for the group's structural development. Groups make

structural responses to the continual feedback they receive from inter-
acting with environmental components. A group is dependent upon resources
from the environment in order to establish itself. Discussing the formation
of synthetic (emergent) organizations, Thompson (1967) claims that these
new social entities are synthesized from existing resources located in the
larger social environment.

> . . . two things happen to . . . bring about a synthetic organi-
> zation: (1) uncommitted resources arrive, with those who possess
> them seeking places to use them, and (2) information regarding
> need for additional resources begins to circulate. When
> knowledge of need and resources coincide at a point in space,
> the <u>headquarters</u> of the synthetic organization has been
> established (Thompson, 1967: 52).

Homans (1950) also recognizes the importance of environment and its
impact upon the group. For Homans, the group is composed of an external
and internal system. The external system represents the group as it is
conditioned by the physical, technical and social aspects of the larger
<u>environment</u>; while the internal system refers to internal dynamics of
activity, interaction, sentiments and norms (Homans, 1950: 90). Kreisberg
(1968), Olsen (1969), and Stinchcombe (1965) all acknowledge that mobili-
zation of environmental resources is essential to the formation of organi-
zations.

So far, environment is conceptualized in terms of resources. However,
Dill (1962) treats environment as information which becomes available to
any system. Environmental information inputs have a direct impact upon
the formation of a system in that they trigger action and provide infor-
mation about goals and the means available to achieve goals. Wilensky
(1967) also sees the importance of gathering informational inputs,
especially when a group or organization is faced in the early stages with
problems of coordinating and planning. For our purpose, environmental
inputs is conceptualized as both resources and information.

<u>Size</u>. Since the early works of Simmel (1950), Spencer (1908), Weber
(1946) and Durkheim (1947), size has been regarded as an important
dimension associated with structural differentiation. Impressed with
the impact of changing size, Simmel believed that ". . . when a change is
directly required by a purely quantitative modification of the group . . .
the size immediately determines the form" (Simmel, 1950: 71). Many studies
demonstrate the distinct tendency for growth in group size to go hand in
hand with increasing structural differentiation. (See Thomas, 1959).
Thomas states that:

> Size enables differentiation to occur by providing a larger
> number of persons over whom functions may be distributed and
> by increasing the range of individual skill and ability
> needed to give feasibility different assignments to persons
> (Thomas, 1959: 37).

Cartwright and Zander (1962) provide a good summary of small group
literature that treats size as a dimension. They state that ". . .
virtually all of the quantitative research on the effects of size have

been descriptive investigations in which the properties of larger and smaller groups are compared" (Cartwright and Zander, 1962: 103). Implicit in these studies is that the addition of new members to a group creates changes in the internal structural arrangements. Coyle states that ". . . structural form is itself affected by the number of those involved. The addition of new units transforms it not only quantitatively, but also qualitatively" (Coyle, 1930: 89). While size is an important analytical dimension, this research is restricted in its analysis of size because of the limited cases available. However, this empirical limitation must not preclude inclusion of size into a meaningful analytical framework.

A debt is owed to Mott (1965) and Blau (1970) who have further articulated the association between size and differentiation. Mott focuses upon the effects of increasing population size on social organization, developing a number of specific propositions relating increased size with aspects of structural differentiation. Three propositions are directly pertinent to this research:

(a) As the population of a social organization increases, the roles become more formalized (Mott, 1965: 53).

(b) As the population of a social organization increases, the number of levels in the influence and authority structure also increases (Mott, 1965: 58).

(c) As the population of a social organization increases, the number of coordinative problems and the need for coordination also increases (Mott, 1965: 65).

In a recent attempt to develop a formal theory of differentiation in organizations, Blau deduces nine interrelated propositions from two basic generalizations. Of interest to this study is the relationship he finds between increasing size and decelerating rate at which structural differentiation of subparts occurs. As an organization increases in size "different tasks are assigned to different positions; specialized functions are allocated to various divisions and sections; . . . administrative responsibilities are subdivided among staff personnel and managers on various hierarchical levels" (Blau, 1970: 217).

Structural Differentiation

Literature on structural differentiation is indeed limited. We are forced to rely on discussions which are at best only tangential to our central concern -- structural formation in emergent groups. Most discussions deal with the general subject of social differentiation. Svalastoga (1965) distinguishes three varieties of social differentiation: rank differentiation, functional differentiation, and normative differentiation; however, his major emphasis is upon stratification (rank differentiation).

A number of writers conceptualize differentiation as a process. Olsen sees "social" differentiation as part of an overall process of social organization, in that ". . . social order (differentiation) emerges as ongoing relationships become interwoven into relatively stable and hence

predictable arrangements" (Olsen, 1968: 31). Olsen attributes our lack of understanding of differentiation to our inherent language difficulties in conceptualizing "process", since most nouns in the English language refer only to static objects.

Bennet and Tumin (1949) become a little more specific, seeing differentiation as really a matter of "sorting out" individuals into various statuses. "Individuals interact and as a result they are sorted our or differentiated into various positions or statuses in their social orders" (Bennet and Tumin, 1949: 127). As to how this "sorting out" takes place, we are given no further information.

A few clues are given by Hertzler (1954), who concurs with Bennet and Tumin but adds that differentiation is a "sorting out" process, based upon an array of existing and new criteria which involve ". . . individual characteristics and interests, prevailing and changing folkways, traditions, and institutional values and requirements" (Hertzler, 1954: 209). However, no one has yet dealt directly with conceptualizing the process of structural differentiation. Coyle (1930) comes closest to actually treating structural aspects of differentiation, discussing "structural evolution" in small groups. This discussion tends to be more descriptive than analytical, assuming structure to be a response to functional demands. Structure is seen as a relatively permanent set of relationships through which a group pursues some agreed-upon end. In pursuing this common end ". . . it is inevitable that there should be worked out a certain division of labor, which usually takes structural forms" (Coyle, 1930: 95). Functional tasks are assigned either to individuals or to subgroups, with the most universal function being coordination of tasks. Coyle finds that other forms of functional specialization are dependent on the "nature" or type of group focused upon.

Nevertheless, these works do not provide an adequate conceptualization of "structural differentiation". What is necessary is an attempt to conceptualize this phenomenon using an inductive synthesis which draws together existing knowledge regarding differentiation, with specific reference to structural components. This is essentially what the next chapter attempts. However, before we begin some introductory remarks are necessary.

To help determine what structural components to focus upon, we again return to the general guidelines set forth by the structural functional perspective. Referring to differentiation within social systems Parsons states: "The increasing complexity of systems . . . involves the development of subsystems specialized about more specific functions in the operation of a system as a whole and of integration mechanisms which interrelates the functionally differentiated subsystems" (Parsons, 1966: 24). Implicit in this statement is the idea that systems face specific functional problems which stimulate formation of structural relationships to handle these problems. Having this as a guideline, we choose to focus on the following structural components: position-role, task areas and norms. We are concerned here with only a brief introduction of these structural components. (The next chapter will treat them in detail.)

A degree of consensus exists about what is meant by positions and roles. Positions refer to a location in a set of social relations, while role is concerned with behavioral expectations associated with a particular position (Bates, 1956; Olsen, 1968). However, in a study of role differentiation Guetzkow (1960) finds that the establishment of positions and roles does not necessarily imply that they are interlocked into a set of interdependent relationships, i.e., structure. He distinguishes four factors which facilitate the establishment of an inter-locked system: (1) when activities comprising the tasks can be assembled into functional positions, (2) when members explicitly perceive role differences, (3) when there is specific planning and (4) when greater intellectual ability is available in the group. These factors are implicit throughout the analytical discussion in the next chapter.

Tasks are simply activities carried out by group members. Task differentiation refers to the division of labor in a group; it occurs because it is efficient, takes advantage of existing skills, and creates and develops expertise. According to Perrow (1970), every organization has four tasks which it must accomplish: (1) to secure resources from the environment, (2) to secure acceptance or legitimation, (3) to marshall necessary skills and (4) to coordinate goal oriented activities.

Norms are considered components of structure because they act as an integrative mechanism. Hertzler (1954) claims that norms are involved in both regulatory and maintenance processes. Regulatory norms are the more explicit rules and regulations regarding behavior, whereas maintenance norms are more concerned with creating and sustaining morale. Mills (1967) claims that groups develop normative systems which designate how participants should act and feel and provide sanctions when behavior does not coincide with norms.

Summary

This chapter has reviewed that body of literature which guides our own intellectual and analytical efforts. A modern systems perspective which focuses upon the dynamic aspects of social systems provides the major theoretical foundation for this research. Several studies were presented which assist in delineating important independent dimensions associated with differentiation. Particular emphasis was given to research which demonstrates the importance of previous behavioral patterns and attibutes in affecting structural formation. Lastly, a brief overview of structural differentiation and structural components was presented illustrating the lack of knowledge regarding thisffundamental sociological process, i. e., structural differentiation.

CHAPTER IV

Analytical Framework

Introduction

This chapter presents an analytical framework which attempts to bring conceptual clarity to the process of structural differentiation in emergent groups. Before we begin, several brief introductory comments are in order regarding the construct (structure), structural differentiation, the specific emergent group referent and some fundamental theoretical underpinnings. Creation of three structural components -- leadership and boundary positions, task areas, and rules and regulations -- will be the central focus of concentration. Together these components comprise what we define to be structure. Structure as a concept in sociology is widely used but seldom clearly defined. Part of this lack of conceptual clarity is atributed to the absence of any tangible empirical referent. While we do not see "structure", we do observe leaders, organizational charts, physical arrangements, individuals holding specific identifiable positions and performing recognizable tasks. These observable characteristics provide the bases for inferring the existence of the construct, structure. Kaplan states: "They (constructs) are definable at least in principle by observables though in practice we may give them only partial and perhaps shifting anchorage in concreta" (Kaplan, 1964: 56).

Structure is defined as a specific configuration of positional, task and normative relationships which are interdependent and recurrent through time. Configuration is simply the arrangement of these relationships into an identifiable form. In particular, leadership and boundary positions become distinguishable, reflecting a functional hierarchy; task areas become recognizable as specific departments, task forces, committees, etc.; and explicit rules and regulations develop to govern group processes. This conception of structure should become clearer with the explication of the analytical framework.

While structure is our focal construct, the basic concern is the formation of this structure, e.g., structural differentiation. As individuals interact over a period of time in activities related to their common problems, behavior and relationships begin to assume regularities from which a pattern can be constructed. It is the process whereby structural components become sorted out and distinguishable which we refer to as structural differentiation.

For empirical reasons, this framework is restricted to a specific type of emergent group which occurs in a crisis situation, e.g., a natural disaster setting. These groups form in response to unmet community needs which are unmet because established organizations are over-taxed, incapacitated and/or fail to provide direction and supply channels for action. What exists, in effect, is a functional gap within the community social system which must be filled if recovery and restoration of normal

institutional patterns is to occur. A crisis situation creates a sense
of urgency which necessitates immediate response. This sense of urgency
affects structural differentiation in that emergent group participants
do not have the luxury of thoroughly considering various alternative
behavior patterns. While urgency created by the crisis affects the
structural differentiation process, we contend that the analytical frame-
work presented here will, with modification, be extropolable to emergent
groups in noncrisis environments.

Lastly, a few comments are necessary regarding the theoretical guiding
perspective which underlies this study. While little information exists
on how groups structurally differentiate, sociology does have a useful
theoretical perspective from which we can begin to understand this
phenomenon. This perspective comes under the general rubric of systems
theory. No theory has yet to explain everything, for what one emphasizes,
another claims as irrelevant and nonessential. Our basic stance is not
dogmatic but rather pragmatic. Under certain conditions and for specific
types of social phenomena, theory X accounts for more variance than theory
Y and therefore provides a meaningful framework for analysis.

A cybernetic systems perspective heavily influences the development
of our own analytical framework. We contend that this perspective provides
a useful theoretical guideline from which to begin our own development of
a specific analytical paradigm. By accepting a cybernetic systems
perspective, it is felt that social reality is more realistically repre-
sented in that by emphasizing "feedback processes" social systems are seen
as adaptive and responsive to a changing internal and external environment.
Accepting this perspective also necessitates accepting basic underlying
assumptions. While one can carry assumptions ad infinitum, we think the
most crucial in providing the underpinnings of our own framework are the
following:

(a) group behavior is goal directed;

(b) social action is normatively regulated;

(c) social behavior is sufficiently patterned to permit analysis;

(d) human action involves selection between alternative orien-
tations and responses;

(e) human action is rational in the sense of being a function
of the actor's innate needs (or viscerogenic need), his
acquired orientation (socialization) and the particular
situation in which he finds himself (Black, 1964: 272-274).

Overview

The above introductory comments have acknowledged the influence that
a general systems and cybernetic perspective has had upon the development
of the subsequent analytical framework. It is now time to present this
framework. We will divide our discussion into three main sections:
dependent variable, intervening variable, and independent variable. In
treating the dependent variable, structural differentiation, three

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INDEPENDENT DIMENSION	INTERVENING DIMENSION	DEPENDENT DIMENSION
		Structural Differentiation

I. Size	I. Feedback Processes
	  a) Goal-Seeking
	  b) Reconstitution
	  c) Self-awareness
		I. Positions
		  a) Leadership
		  b) Boundary

II. Previous Patterns and Attributes	II. Decision Making
	  a) Policy
	  b) Allocative
	  c) Integrative
		II. Tasks

III. Goal Commitment		III. Norms
		  a) Regulatory
		  b) Maintenance

IV. Environmental Inputs		

Figure 2. Outline of Analytical Framework

structural components will be discussed: positions, tasks and norms. The dynamic aspect of the framework is imbedded in the feedback process and will be treated as the intervening variable. Finally, four independent variables will be presented, with emphasis upon developing basic hypotheses which will be put to test in the following chapter.

Dependent Dimension -- Structural Differentiation

Groups differentiate in order to facilitate accomplishing stated objectives. This specialization allows individuals to concentrate on specific subgoals and tasks which, when combined with the activities of others, move the group toward major goals. This study's main concern is to further the understanding of structural differentiation in emergent groups and to delineate important dimensions associated with this process. Thus for analytical reasons structural differentiation is conceptualized as a dependent variable. This section focuses upon articulating and defining those elements involved in this process.

As mentioned earlier structural differentiation is a process whereby structural components become distinguishable and identifiable. This discussion concentrates on three structural elements: position, tasks and norms. These elements are selected because they represent structural manifestations of how systems confront specific functional problems if it is to establish itself and survive. Goal attainment is the "raison d'etre" of any system. Every system seeks specific ends or objectives, which may include a series of goals or simply self preservation. Of importance here is that a system's activity is coordinated toward obtaining these specific ends or objectives. Adaptation refers to coming to terms with the environment. For a system to develop it must acquire from the environment the necessary technology, manpower and material resources needed to achieve its goals. While adaptation is concerned with adjustment or accommodation to an external environment, integration involves coordination of internal system sub-components directing activity toward defined ends. Lastly, if a system is to become an effective operating unit, it must confront the problem of establishing and maintaining participant commitment to system activities and objectives. This problem is known as pattern-maintenance. The existence of these functional problems and the need to confront them explains why structure develops. By establishing a set of identifiable patterned relations, functional problems are met. A system is successful to the degree that the problems are successfully handled.

While the dependent dimension, structure formation, is a process involving an entire composite of interrelationships of independent, intervening, and dependent dimensions, the following discussion will concentrate upon analytically distinguishing structural components. Nevertheless, while making these static distinctions, it must be recognized that the phenomenon of concern is in reality a dynamic process. Each structural component will now receive specific attention.

Positional Structure

While we refer to position as a focal structural component, it is necessary to clarify the relationship between position and role and how

each are used in this study. Most sociologists indicate that these two
concepts are two distinct aspects of the more encompassing concept "status".
Position is the static aspect designating location in a pattern of inter-
relationships, while role refers to the dynamic or behavioral aspect.
While this research is emphasizing a structural dimension, it is difficult
to absolutely separate position from role, for they are complementary.
Thus, we treat both under the single analytical concept of "position".
We reject the use of "status" because, in addition to implying position
and role, it also connotes a system of ranks and prestige which is not this
study's focal concern.

In established ongoing groups, many positions might be readily
identifiable to an investigator; but in the amorphous context which
surrounds group emergence, specific positions are neither easily identi-
fiable nor necessarily even in existence. We have chosen two specific
positions to focus upon -- leadership and boundary position. These
positions generally are first to emerge, performing integrative and
mediating adaptive functions respectively. They in turn further facilitate
the establishment of an identifiable social unit. Leadership involves the
coordination and integration of the group by making decisions which commit
the entire group to certain courses of action. On the other hand, boundary
positions are concerned with relating the group to its environment. While
analytically it is possible to make a distinction between leadership and
boundary positions, empirically the position incumbents may be one and
the same.

Leadership Position. A leader is simply an individual who exerts
influence over others, i.e., he possesses the ability to elicit from others
a desired response. We are not concerned here with individual leadership
traits but rather with the functional aspects of the leadership position
in achieving the group's objectives. We accept the more popular concept-
ualization of leadership and restrict its usage to the performance of a
limited set of group functions such as planning, policy determination,
decision making and coordination (Cartwright and Zander, 1962: 305). Because
of the limited extent to which groups structurally differentiate, we will
focus on the position of "overall" group leader, supplemented with specific
task leaders in instances of highly differentiated groups.

In addition, emphasis is placed on the role of leadership in the
general process of the group. Leadership is the key structural element
which receives and acts upon inputs from the external and internal environ-
ment. The term "acts upon" refers to the decision making-process whereby
a choice is made and action is taken to implement the choice. This may
be in terms of manipulating and allocating resources to specific functional
sub-units or it might involve receiving, interpreting and transmitting
information. In either case, it involves the coordination of internal
group components so that group actions maintains its goal directed focus,
while also making necessary structural adjustment to accomodate changing
environmental inputs. The role of leadership in the feedback process will
be dealt with shortly.

Boundary Position. The distinction between leadership and boundary
positions is basically one between integration and adaptation -- two
functional problems of any system. While leadership is basically concerned

with internal coordination of subunits, boundary positions focus on relating the group to the larger external environment. Kahn defines boundary position as a position ". . . for which some members of a role set are located in a different system -- either another unit within the same organization or another organization entirely" (Kahn, 1964: 101). While boundary positions exist within groups and organizations relating internal components to each other (e.g., department and section heads), groups, because of their size limitation, are restricted in the scope of differentiation they exhibit (compared to large scale organizations); boundary positions relating to external environment are thus more salient. For this reason we focus upon boundary positions which relate the group to the external environment. The position incumbent holds both a place within the group and a relevant position within one or more organized collectivities in the environment. There is an aspect of marginality to this position, since the incumbent is not oriented to any one system.

Holding joint positions enables the boundary incumbent to mediate transactions between the group and relevant environmental components. These mediating transactions take the form of representing the group to other organizations and environmental groups; legitimating the group and its activities; procuring resources; and providing an entrance point at which input resources can be channeled into the group. As stated before, the distinction between leadership and boundary positions may in fact be purely analytical.

Task Structure

Task structure is the specific arrangement of work activities so that there is an efficient use of manpower and resources in the group's pursuit of its goal(s). The advantage obtained from any organized effort is that a division of labor can occur which allows individual participants to specialize in particular tasks. These tasks when taken together move the group toward achievement of a stated end. It is precisely this division of labor or task differentiation that is of interest here.

A task is any observable activity carried out by a group participant. By and large, organized effort requires the successful completion of a number of subactivities in order to achieve major objectives. Perrow delineates four tasks which all organized groups or organizations must initiate: (1) secure inputs in the form of capital and material resources, (2) secure legitimation of the basic group's activities, (3) secure personnel with the necessary skills and (4) coordinate activities of members and their relations with the environment. To these four we add a fifth, the successful processing of resource inputs for goal imple- mentation. These five task areas comprise the group's task environment and are essential activities which must be successfully carried out for a group to accomplish its goal. Task structure develops as homogeneous task segments are identified and isolated. Similar activities are grouped together to facilitate efficient coordination and processing of resources. To designate task segments, categorical labels are utilized, e.g., depart- ments, committees, teams, sections, divisions, task forces, etc. These labels or designations refer to homogeneous structural components; hence, task structure refers to unit components and the specific configuration they manifest in the group.

Normative Structure

For interaction to occur and exhibit predictable regularities there must exist some shared standards of behavior -- norms. Throughout the socialization process individuals learn and acquire at least a minimum understanding of acceptable behavior patterns. Failure to acquire this knowledge leaves the individual open to severe sanction on the part of larger society. Rules and regulations governing behavior are the cement which permits social life to exist with some semblance of order. Defined as shared standards or expectations of behavior, norms are further differentiated into a number of specific types designating the degree to which sanctions are applied, e.g., laws, rules, regulations, folkways, mores, etc. Our concern is with explicit norms (rules and regulations) developed to regulate and maintain a group as a functional social entity and not with those norms acquired through the more general interaction and socialization process.

Two classes of norms comprise what we consider to be normative structure -- regulatory and maintenance norms (Hertzler, 1954: 318). Regulatory norms are the explicit rules and regulations which govern conduct of group participants. In task oriented groups regulatory norms delineate specific operational procedures, rights and duties associated with positions and regulate information flow and utilization of material resources. Norms gradually become articulated as a result of trial and error experience and/or become purposefully enacted by participants who have forethought acquired through past experience. Regulatory norms become the guidelines for behavior and govern the group's social processes.

Maintenance norms are standards which are geared toward establishing and reinforcing a high level of motivation and morale among group partici-pants. Morale has long been recognized as an important integrating factor, particularly in a crisis situation. Hertzler defines morale as "a unified state of attitude, emotion and thinking among the members which make for a dominating overall loyalty to and oneness of that group and effective devotion and commitment to its common essential objective" (Hertzler, 1954: 338). Morale is reflected in an "esprit de corps" exhibited by a group and the conviction of the essential worthiness of the group objective. This becomes manifested in altruistic acts, a general sense of good will and an overt commitment to group goals. As an integrating mechanism high morale draws participants closer together creating a strong sense of group solidarity. The existence of high morale has a direct impact on the effectiveness of structural relationships developed in the group. Coop-eration is voluntarily extended, tasks are consciously carried out and decisions and directions are accepted as legitimate.

Maintenance norms play an essential role in reinforcing participants' commitment to group activities and objectives (i.e., pattern maintenance). In focusing on emergent groups in a disaster context, this normative dimension manifested in the morale, motivation and esprit de corps of the group becomes extremely salient to participants and is seldom problematical, at least in the group's early stages. To go beyond this superficial treat-ment of maintenance norms would require delving into social psychological explanations which would take us far afield. Sufficient for our purposes is simply the identification of these norms and the recognition of the role they play in the group's pattern maintenance.

Intervening Dimension

At this point we introduce the intervening dimension in order to
facilitate a clearer understanding of the relationship between the
independent dimensions and structural differentiation. It is this inter-
vening dimension that provides the dynamics to an otherwise static frame-
work. However, we must first acknowledge a basic limitation. Unfor-
tunately, we are inhibited by the inherent static nature of all analytical
endeavors, which forces us to conceptualize all processes in terms of static
distinctions. The English language is poorly adept at denoting process;
hence we must rely on the reader's conceptual ability to take analytical
distinctions and reconceptualize them into a continual process flow.

The dimensions focus on the cybernetic nature of social systems,
emphasizing the self-regulating mechanism inherent in any system.
Cybernetics has been likened to a thermostat which automatically regulates
itself by interpreting cues from the environment and making necessary
corrections to achieve a desired temperature. Similarly, social systems
interpret cues from the environment so that necessary adaptations or
corrections can be made to achieve systemic objectives. To tap this
dimension the concept "feedback" is introduced, delineating a self-
adjusting process mechanism. A feedback process, coupled with emphasis
on decision making, provides the dynamic quality of this framework.

Feedback Process

Feedback involves two sets of interactions: one focuses on the group
in relation to external environmental components, and the other concentrates
on the whole group in relation to its internal component parts. In each
instance feedback essentially involves an exchange of information, which
becomes the basis for self-regulatory group action taken to facilitate
goal attainment activities. Simply stated, a group initiates specific
action outputs which affect other components in either the external
environment (e.g., other groups, organizations, agencies or collectivities)
or the internal environment -- system subunits. These environmental
components in turn make responses in the form of information and/or
material inputs, which are "fed back" to the control center (leadership/
boundary positions) and/or subunit decision makers. Subsequent actions
are taken on the basis of this feedback which allows the group to self
monitor and steer itself toward successful goal achievement. For a
diagrammatic overview see Figure 3.

A clearer conception of feedback can be obtained if we consider this
process in terms of the following distinctions (Buckley, 1967: 174):
(1) Leadership, in collaboration with group participants, arrives at
desired goal commitments and establishes a set of structural relationships
to facilitate goal achievement; (2) These goal commitments are in turn
transformed into a specific designated group domain, i.e., those
activities which the group sees as its proper function. Within this
context group leaders, in cooperation with participants, transfer goal
commitment into concrete actions which become outputs directly affecting
internal subunits and/or external environmental components; (3) The effects
of these outputs are recorded by system subunits and environmental components
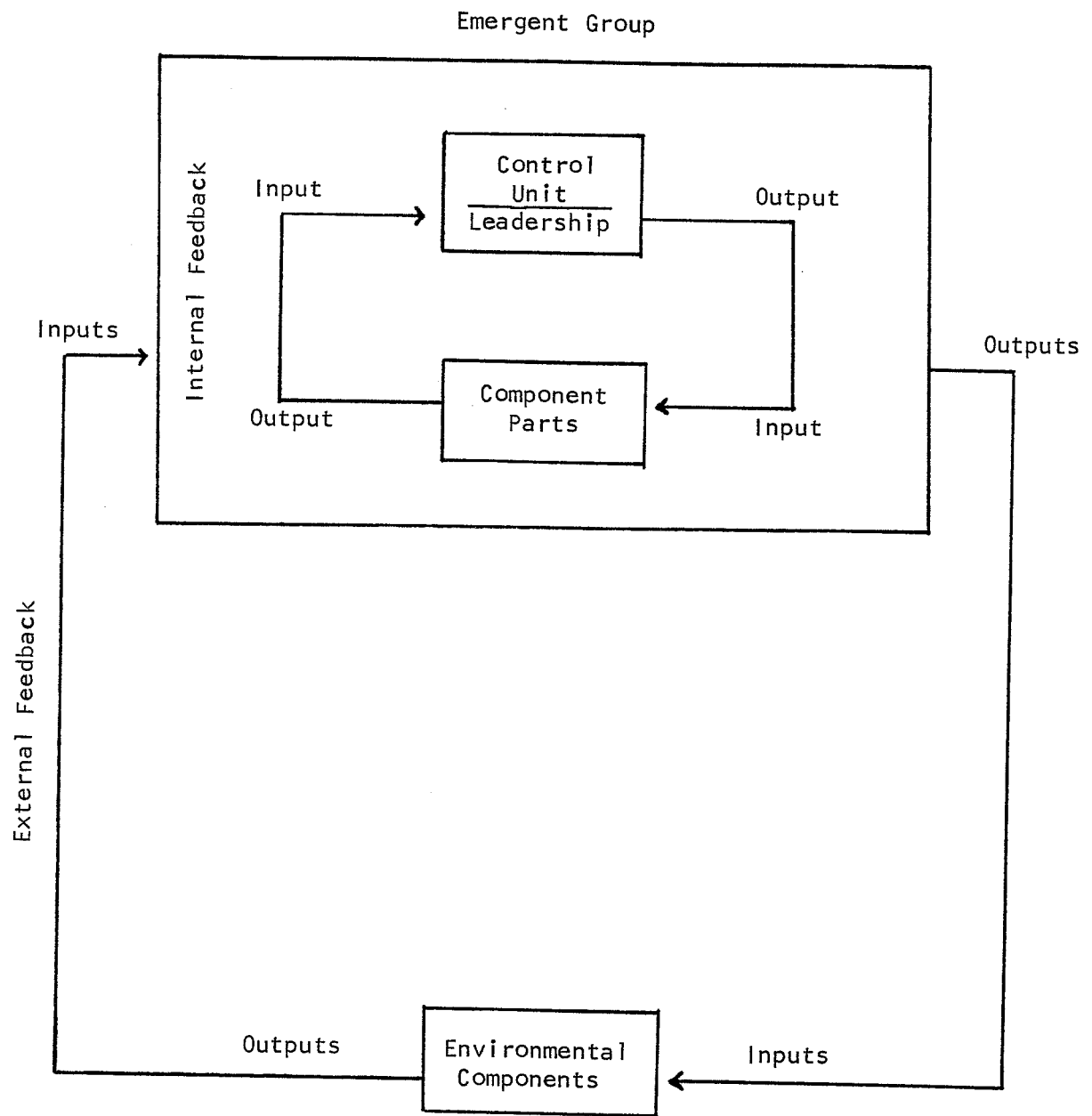
Emergent Group

Figure 3.   Intervening Dimension Feedback Processes

and are fed back to group decision makers who have been socialized and sensitized to detect incompatibility between actions and desired ends; (4) Participants in key leadership positions assess these feedback inputs and determine whether the existing circumstances are congruent with goal commitments; (5) If discrepancies exist between circumstances and group objectives, corrective action (i.e., manipulation of group resources) is taken to bring about a more congruent relationship. Thus, what exists is a continual circular process in which there are mutual stimulus-response transactions between the group as a whole and its internal and external environmental components.

As an ongoing process, feedback involves information transmission directed at answering the question, "how are we doing in accomplishing our goal?" This information is classified into three kinds: external environmental information regarding situational changes which directly affect the group's operation, information about past group action and its impact upon external environmental components, and information from its own internal components regarding specific functional aspects of the group. This information provides the basis upon which leaders make necessary decisions, formulate policy and allocate resources that modify the group's structure and future performance.

In order to be self-determinate and to develop, a group depends ". . . upon three orders of feedback of increasing complexity and impor-tance" (Mills, 1967: 19). Goal seeking feedback involves determining from informational inputs whether current actions and operations are moving the group toward its target goals. When there is positive feedback, i.e., progress, leadership may do nothing or take action to increase operational efficiency. But if there is negative feedback, i.e., no or insufficient progress, leadership may attempt to alter the group's internal structural arrangements and/or take action which successfully manipulates the external environment. Mills states: "Through observation, intervention and observation of the effects of intervention . . . group agents (leaders) learn how to operate on the environment to achieve collective goals" (Mills, 1967: 19; brackets are mine).

The second order of feedback involves the rearrangement or recon-stitution of the internal structural relationships. This is necessitated by observing that the group's activities are in contradiction to environ-mental realities, e.g., a group learns that it is duplicating tasks that are being done more effectively by another environmental component. To make the group more congruent, the leaders might then redefine goal priorities or establish new goals, both of which would require appropriate structural alterations. The essential idea here is that a group makes structural rearrangements to accommodate itself to the larger external environment.

Both Buckley (1967) and Mills (1967) label the third type of feed-back as consciousness feedback; however to avoid the issue of "group consciousness" we chose Buckley's alternate designation, self awareness feedback. This form of feedback is an internal phenomon in which group participants provide informational assessments and internal operational matters. Participants are invaluable information sources since they alone have first-hand knowledge necessary to evaluate group actions and

articulate the many unanticipated operational problems which arise in carrying out tasks. Feedback which utilizes knowledge gained through actual group participation becomes in fact the internal mechanism which not only monitors group processes and structure but makes the necessary corrective actions to facilitate goal attainment.

Involved in each order of feedback is a conscious decision either to leave the system alone or to take certain necessary corrective actions. We cannot fully understand feedback unless we have some understanding of how decisions are made. Thus a few words are necessary on the process and nature of decision making.

Decision Making

Interwoven in the feedback process is the subprocess of decision making. Internal and external environmental inputs must be recognized and evaluated and decisions made regarding specific corrective actions. While much has been written concerning decision making, our concern is solely with the essential elements of this process. (See Taylor, 1965, for extensive bibliography). Before actually considering this process, a few comments are necessary concerning two key elements: rationality and "instrumental" rationality.

Implicit throughout most discussion of decision making is the assumption that rational choices are made on the basis of the logical and efficient assessment of all alternatives and their impact on target goals. However complete rationality never really exists in a complex dynamic environment. The concept "bounded rationality" has been developed to qualify total rationality. Bounded rationality posits that decisions are made within a limited rational context since all known alternatives are never articulated, all consequences are never anticipated and participants are limited both in their informational access and inherent intellectual ability. Thompson goes one step farther in stating that emergent groups in a disaster context become "instrumentally" rational, that is, tasks and decisions are made pragmatically, not efficiently. In addition to normal limitations, emergent groups are faced with the dual problem of trying to establish a structure while simultaneously carrying out operations. Thus they do the best they can given the situational context in which they operate. Any discussion of decision making, particularly with reference to emergent groups, must be cognizant of these limitations.

Recognizing these limitations, we conceptualize decision making as a process which seeks and gathers as much information as possible upon which to formulate strategies and articulate alternatives. As alternatives are determined, implications regarding their consequences are considered in light of the desired end. Assessments are then made regarding the most suitable alternative choice. Once this choice is made, actions are taken to allocate manpower and resources to implement the choice. However, due to limited information and time pressures, alternatives are never fully articulated, leaving decisions to be made more or less on pragmatic grounds.

Nevertheless for analytical reasons it is useful to differentiate decisions into specific categories. For this purpose Parsons (1951) offers

a useful decisional typology: policy, allocative and integrative decisions. Policy decisions are the paramount set of decisions that determine a system's goals and shape its essential character. They determine the quality and nature of the output, making changes in the operational scale, concern the approach taken with external environment and establish modes of internal operation. Allocative decisions establish how resources are to distributed and used within the system. These decisions involve allotting responsibility and physical facilities to subunits so that they will have the necessary means to carry out assignments. Integrative decisions are attempts to coordinate participants and system components in order that sufficient cooperation can be maintained to preserve the system's existence.

In sum, this section introduces the cybernetic concept of feedback as an intervening dimension which must be considered if we are fully to understand the relationship between the independent dimensions and structural differentiation. Feedback is essentially a self-monitoring and self-adjusting process and integrates internal structural components to facilitate goal attainment. Intricately involved in this process is the continual need to make choices. These choices or decisions are what guide and determine the system's development. The above processes ought to become clearer as we now consider the independent dimensions and their relation to our dependent variable, structural differentiation.

Independent Dimension

This section presents four dimensions: size, goal commitment, environmental inputs and previous patterns and attributes, which are treated as independent dimensions associated with group structural differentiation. Although recognizing that the independent dimensions are interrelated, we will treat them independently, focusing only on their relationship with the dependent variable. In so doing we hope to weave independent, intervening and dependent dimensions into a meaningful analytical framework for understanding structural differentiation in emergent groups. This discussion is organized first around a brief definition of each independent variable followed by the development of specific hypotheses. These hypotheses initially are empirically grounded in the California data. Taken together these hypotheses serve as an analytical guide for an intensive case study in the next chapter.

Size

As noted in the literature review, size has long been associated with structural differentiation, with increasing size enabling greater functional differentiation because tasks can be distributed among more persons. It is extremely difficult, however, to isolate the direct effect size has on differentiation since it is not a "pure" variable, i.e., a single unitary phenomenon (Thomas, 1959: 35). Size is one of those dimensions, like education and income, which is highly correlated and complementary to a host of other structural dimensions. We are unable adequately to consider in this study all possible intervening dimensions compounding the effect of size upon structural differentiation. To do so would entail a multi-variate approach which is inappropriate for a qualitative exploratory study.

While recognizing and accepting this limitation, we will for analytical clarity treat size as if it is a unitary phenomenon.

In this study size simply refers to the <u>number of participants</u> involved in an emergent group. However, in most instances of group emergence it is extremely difficult to get a precise number designation because many individuals volunteer for only a short time and then abandon the group. The problem becomes one of whether to consider these one-shot participants members of the group. This dilemma leads us to make the distinction between "core" participants and "associate" participants. Core participants are those individuals who work on a regular day-to-day basis holding an identifiable group position -- these individuals comprise the group's nucleus. Associate participants are all others who are tangentially involved with the group, performing a particular task and then withdrawing from further involvement. In some instances, associate participants reached well over 100 individuals throughout the life cycle of the group. However when reference is made to size we will refer only to core participants who provided the group with a working nucleus and continuity over time.

Because we are restricting our definition of size to core participants, we suffer further limitation since emergent groups studied seldom exceeded 30 core participants. Nevertheless we do have one major advantage in studying emergent groups; this is derived from their essentially ephemeral nature, i.e., their rapid emergence and dissolution. Since emergent groups are short-lived, we are able to tap how increasing size, associated with a growth phase, leads to structural expansion, while also observing structural contraction which occurs with decreasing group size, dissolution. Granted, our generalizations are restricted by the small increases in group size; nevertheless, we do have the opportunity to tap the effects of fluctuating size on structural differentiation.

<u>Hypothesis</u>: As the size of an emergent group increases, there is a corresponding structural expansion.

This hypothesis represents the basic relationship between size and structural differentiation. As the number of participants increases, corresponding qualitative changes in the relationships between members occur. Tasks are distributed among members and individuals are designated to perform specific roles associated with identifiable positions. These resulting qualitative changes are essentially the product of "sorting out" individuals to perform specific specialized tasks. For instance, both the Crest and Harbison Canyon developed fire victim relief centers; however, Crest, having fifteen regular volunteers, was able to differentiate individuals into specific positions: communication and information person, secretary, coorindator, food chairman, etc.; while Harbison Canyon, having only five volunteers, made no positional distinctions besides coordinator and developed no specialized task departments.

While changes occur in the relationships between individuals, operational divisions occur which differentiate functional subgroups performing similar tasks. As group membership increases, tasks can become routinized, with individuals specializing in one or more aspects of a more elaborate operational activity. Similar tasks activities become grouped and designated as a specific functional unit, i.e., department, committee, task

force, etc. For example, the San Diego support group and Crest relief center, both of which had fifteen core workers, developed distinct task departments, e.g., support and assistance, stockroom, registration, medical care, communication and information, etc.; on the other hand, the Malibu and Harbison Canyon relief centers, with limited participation (fewer than six core members), never developed distinct operational departments. Of significance here is that a quantitative increase in group membership provides the necessary human resources to facilitate a more elaborate task division utilizing individual skills and creating further specialized expertise.

As the number of group participants increases, problems arise regarding coordination and integration of activities, especially with respect to decision making and relating the group to the larger environment. To handle these problems positions are created which define as part of their role set the administrative tasks of coordination and integration of subunits, general decision making duties, and group representation in the external environment. However, it must be remembered that we are dealing with relatively "small" groups which seldom exceed 30 core participants. While necessitating a limited administrative component, we do not find elaborate administrative units which are characteristic of complex organizations. For this reason we have restricted our concept of administrative component to two specifics: leadership positions and boundary positions. Leadership focuses on the internal coordination and integration activities; while boundary positions relate the group to the external environment.

It would be impossible and totally dysfunctional for a group as it becomes larger to have all participants performing similar tasks. Particularly in a crisis environment, where emphasis is upon expediency, decisions have to be made which commit the whole group to specific actions. Likewise needless repetition and contradictions would exist if all group members were to attempt to represent the group in the larger social environment. To avoid these problems a group as it becomes larger designates specific persons to fill leadership and boundary positions. San Diego and Crest, the largest groups in the California study, developed distinct leadership and boundary positions, while in the smallest group, Harbison Canyon, the administrative component consisted of only one individual, the coordinator.

Small groups, characterized by direct, face-to-face interaction, are able to rely on informal "understanding" to govern group interaction, since direct participant contact allows for immediate reinforcement and sanctioning of behavior, e.g., the Harbison Canyon group found no necessity for specific rules or regulations. However as group size increases, these informal understandings become ineffective as a means of integrating behavior. Relationships become more complex as face-to-face interaction is reduced to secondary contacts through which information and resources are transmitted. Various internal hierarchies develop, isolating individuals into specific role sets functioning within distinct operational subunits. To have any degree of coordination among these subunits, explicit rules and regulations are developed to standardize behavior. Explicit standards, providing clearly defined behavioral expectations, allow for rapid socialization of group participants. The rules and regulations,

integrating the activities of a larger number of participants, make up the group's normative structure.

The San Diego support group developed regulations regarding procedural matters of registration and resource distribution. Since they operated on a shift basis continuity and standardization between day and night activities were essential. Thus procedural regulations were necessary regarding information to be obtained, card files, resources distribution criteria, etc. While also developing procedural regulations, Crest instituted strict rules concerning the dispensing of information to press and public. All authority was designated to one individual who made it explicit to all volunteers that only she would be allowed to give out information. Both groups were large enough that close supervision and face-to-face interaction were not always possible. This necessitated a greater reliance upon rules and regulations to standardize behavior than was necessary in the smaller Malibu and Harbison Canyon groups.

The larger number of participants involved in a group, the less it manifests "group" characteristics and the more it acquires organizational traits. As the group size increases the likelihood that participants know one another is lessened; thus individuals become more and more identified by the specific tasks they perform. This is particularly true in an emergency situation where demands are so intense that they short-circuit normal social pleasantries. Individuals become limited to basically functional contacts until demands slack off, allowing time for "normal" socializing. Because of the immediacy and intensity of the demands confronting emergent groups in a disaster context, functional positions are identified early and become points of reference in informational exchanges. In short, quantitative increase in group membership creates secondary relationships which for operational and contextual reasons become designated in terms of formally defined positions. In Malibu and Harbison Canyon the groups were small enough for everyone to know each other on a first name basis, with the only recognized position being coordinator. But in the larger groups, individuals were referred to by their position title: coordinator, cook, secretary, director, dispatcher, sorter, etc. These positions facilitated greater structural saliency on the part of the participants.

Hypothesis 2: As the size of an emergent group decreases, there is a corresponding structural contraction.

This hypothesis is made explicit because of the unique opportunity offered in studying emergent groups in a crisis context. As mentioned earlier emergent groups are characterized as being ephemeral social entities rapidly forming and just as rapidly dissolving. While inhibiting the identification of these groups this characteristic affords the opportunity to observe the effect of both increasing and decreasing size. As an emergency situation lessens and the community returns to its normal social life, individuals who are freed from their normal responsibilities are now again obligated to their regular occupational duties. As this occurs the size of the group drastically decreases, necessitating a corresponding structural contraction.

While decreasing size and returning to normal social activities is also associated with decreasing demands upon emergent groups, we want to

focus here only upon the reduction in size and its effect upon structural differentiation. With fewer and fewer participants, task activities become combined and in many instances totally dropped. In a gradual dissolution of an emergent group, interrelationships begin to manifest characteristics associated with small face-to-face groups. Tasks and positions become less differentiated with individual handling of things "which need to be done". There is little need for rigorous reliance upon rules and regulations to govern behavior, although certain operational procedures may still be carried out in light of the former regulations. What is observed is, in effect, "structural elasticity," i.e., the expansion and contraction of structure in response to size fluctuations. This elasticity was observed particularly in the San Diego group, which (at the end of the week when volunteers had dropped to fewer than six) curtailed the night shift, condensed tasks to solely support activities, and no longer adhered to departmental and role distinctions.

Previous Patterns

Group emergence is concerned with establishing a new set of interdependent relationships between participants. These relationships do not crystallize haphazardly, nor are they discontinuous from previous social patterns. Having been socialized into an ongoing social system, individuals enter new groups already possessing established behavioral patterns, normative references and a unique configuration of personal attributes, all of which affect how they respond when confronted with new situational circumstances. In effect what occurs is a synthesis of previous behavioral and structural patterns to form a new set of structural and behavioral interdependencies. The existence of these prior relationships and attributes can often enhance an otherwise insufficient effort. In the literature review chapter, earlier studies were presented which emphasized this important aspect, i.e., Form and Nosow (1958), Zurcher (1968), Torrence (1956), Bates (1957). This section is divided into two parts; one concentrating on prior behavior-structural patterns and the other on usable human attributes.

Three types of prior patterns exist: (1) interaction patterns, (2) structural patterns and (3) procedural patterns. Previous interaction patterns relate an individual to others as a result of past contact and interdependence. Admittedly, emergent groups do form in situations where participants are strangers, e.g., controlled laboratory situations; however, in the empirical cases gathered and in the existing literature few instances were recorded where there have not been at least two individuals who have had previous contact. It is our contention that the presence of previous interaction patterns more adequately characterizes group emergence than does its absence.

Hypothesis: Prior interaction patterns identify and recruit specific actors for emergent group participation.

Prior interaction patterns refer to kinship, friendship and colleagual relationships as well as acquaintances, acquired through functional role playing, e.g., familiarity with a store clerk, repairman, bus driver, etc. These interaction patterns often provide the focus around which an emergent group crystallizes. In a crisis situation, individuals seek out familiar "others" for consensual validation in interpreting events and determining

a useful course of action. These individuals in turn may recruit others to join in collective effort to confront a particular problem or situation. While all emergent group participants may not be familiar with one another, there are pairs or sets who are.

As illustrated in the California case studies, previous interaction patterns play an important part in determining the group composition. For example, in the San Diego group Mr. B. telephoned his close friend, Mr. R., and asked if he would participate in coordinating the group. Similarly, in Harbison Canyon a conscious effort was made by Mrs. C. to recruit "her friend". Drawing upon previous contacts also facilitates rapid assessment of individual capabilities, since prior knowledge is available. Having extensive community contacts, both Mrs. S. of Crest and Mr. H. of Malibu selected individuals they knew could be "depended upon" and possessed necessary attributes to successfully complete specific tasks.

Hypothesis: Previous structural and procedural patterns are utilized to establish a set of functional interdependencies in emergent groups.

Structural patterns refer to specific forms in which relationships become arranged and distinguished. Prior to involvement in an emergent group, individuals have been operating in "established" organizational and group contexts which possess specific structural configuration. Two commonly identified structures are the bureaucratic and professional organizational models. Avoiding a detailed discussion of these two models, a simple distinction can be made: A bureaucratic model relies on adherence to rules and regulations, a distinct authority hierarchy and an intricate division of labor; while the professional model gives greater autonomy and relies on individual technical expertise. What is important for our purpose is how individuals take previous structural forms and apply them in a new context. For example, Mrs. S. of Crest and Mr. B. of San Diego both utilized knowledge gained through previous bureaucratic experience to structure groups which had distinct leadership, extensive division of labor and a well developed committee and departmental structure, while Mr. H. of Malibu, a "professional" architect, refused to establish committees, departments or any "bureaucratic red tape". In those cases where participants had previous organizational ties, familiar structural mechanisms were adapted to the emergent group. In two instances where participants had no formal organizational involvement, structural differentiation was limited to a distinction between leader and volunteer workers. Also, no identifiable committees or departments were established. Activities were carried out informally. However, it must be remembered that we are dealing with groups and not formally established organizations. Thus, our reference to implementing structural patterns is really one of degree, since size limits elaborate structural differentiation.

Procedural patterns refer to operational steps used in carrying out activities. In daily living, individuals observe and learn convenient and/or specified ways of doing things. These procedural patterns may be highly technical, requiring extensive training and expertise, or simply organizing procedures, e.g., businesses handling large inventories develop elaborate record keeping procedures which allow for rapid inventory assessments. Similar record keeping was established by the collection

and distribution centers. Each center also followed common retail grocery store procedures in organizing food items into categories, i.e., canned goods, vegetables, meat, dairy products, condiments, baked goods, etc. Similarly, two centers were organized along the patterns found in thrift shops, at which the participants had had experience in managing and shopping.

Usable Human Attributes

While previous structural and behavioral patterns have a profound impact on the nature of structural differentiation, so too do specific individual attributes brought by participants to a new group. As a result of previous socialization, formal training and active involvement in ongoing social systems, individuals enter into the process of group formation possessing a wide range of skills, knowledge and experience which become valuable resources for the group. Subsequent structural differentiation utilizes these human attributes in sorting out individuals into specific functional positions.

Hypothesis: Usable human attributes are utilized to differentiate participants into specific positions and to allocate tasks.

As a group begins to crystallize and participants reach a commitment to a course of action, individuals begin to differentiate or sort them-selves into distinct positions to carry out task activities. These tasks taken together move the group toward its objective or goal. The advantage of collective action over individual action is that individuals can specialize and concentrate on one aspect of a larger complex whole. It is this process of task and role specialization that this proposition focuses upon. Essentially it is posited that positions and tasks are assumed and/or assigned according to individuals' usable attributes.

An attribute is any usable human trait, skill, knowledge or experience which distinguishes one individual from another. Since attributes are distributed unevenly among participants, the problem becomes one of essentially trying to match appropriate attributes with specific positions and tasks, hoping some congruence is obtained between individuals, positions and tasks. However the matching process is difficult to con-ceptualize analytically since it seems to occur on both explicit and implicit levels. Explicitly, individuals make known what relevant skills, knowledge, experience, etc., they possess, and in turn, an assessment is made as to appropriate assigned position and/or task. For instance, a woman may volunteer the fact that she works as a doctor's receptionist. Utilizing this information she might then be relegated to answering telephones and/or clerical work. But on a more subtle level, individuals seem to choose positions and tasks in which they can utilize their own special talents. There really is no conscious assessment or matching of individual to position or tasks. For the purpose of this study we will focus upon only the explicit or overt matching of individual attributes to appropriate positions. Particular emphasis is placed on role transfer or carryover and the utilization of technical skills in participant differentiation.

Role carryover refers to the process whereby an individual assumes or is assigned a role in new groups which corresponds to a role held within

another social context. In the California cases, the recognized leader of each group held or was holding a leadership position in another group or organization, e.g., women's auxiliary clubs, businesses, PTA, community interest groups, etc. Individuals with leadership experience learn to make decisions, coordinate activities and interact with other agencies and organizations. These skills are necessary if an emergent group is to exist beyond its initial crystallization. The immediacy of demands, both internal and external, do not allow the luxury of training individuals to fill leadership positions. Effective leadership is needed immediately; and thus a premium is placed on leadership skills. One who demonstrates these skills is readily identified as a potential leader. But in groups where there is a high degree of previous interaction, leadership is identified through relating to past performance. Such was the case of Mr. H. of Malibu, who had successfully led community opposition to construction of a freeway. Based on this past performance, Mr. H. was elected the group leader.

In addition to leadership role carryover, there is transference of both occupation and sex roles. Key occupational roles often become crucial in emergent group activities. For instance, in the CD support group a first aid station was set up to treat firefighters. Staffing the medical department were two nurses who had transferred their professional skills from a hospital to an emergent group context. Similarly, we saw the utilization of contractors, architects and veterinarians in the Malibu group. When the task domain of an emergent group requires professional expertise, individuals having the necessary occupational skills will be solicited to fill those expertise roles. This is based, of course, on the assumption of the availability of participants with appropriate skills. If a group is unable to recruit the necessary expertise from its participants or potential participants, it will either have to "make do" or eliminate the task area from its defined task environment.

Similarly, we have extrapolation of sex roles when the emergent group is sexually mixed. In the California studies (all instances of groups comprised of both sexes) traditional sex roles were maintained. Women performed the supportive tasks, e.g., food preparation, clerical activities, child care, laundry, etc., while men held leadership positions and engaged in tasks requiring greater physical strength. However in instances where only women comprised the groups positions and tasks were differentiated according to previous leadership experience and expertise. Each clothing and food center had a woman in charge who normally held a leadership position in a women's club or community organization.

In addition to role carryover the attributes of technical skills, knowledge and expertise are utilized in assigning individuals to specific tasks. Identification of these attributes is either volunteered by the participants or known as a result of previous contact. For example, Mrs. S. of Crest had known and worked with many of the women volunteers before the fire and was thus able to assess their qualifications for performing specific functions. She explicitly designated a woman she knew was a "good talker and aggressive" to handle all incoming and outgoing telephone calls.

Usable human attributes become important because they provide a
ready source of skills and talents for filling positions and performing
needed tasks. In a crisis situation emergent groups do not have the
luxury of methodically seeking our appropriate personnel. They must use
the available manpower. Differentiating individuals according to
existing usable attributes allows for rapid, maximum utilization of human
resources. But even more important -- these attributes provide an
immediate basis of legitimating assignment of individuals to specific
positions and tasks. Given the immediacy of the demand faced by these
groups, existing attributes facilitate rapid and efficient structural
differentiation.

Goal Commitment

A structural-functional perspective assumes that all behavior is
goal directed. Normally it would be sufficient to leave treatment of goals
as an underlying assumption; but to do so would neglect its essential
importance in the process of structural differentiation. To achieve a
specific goal(s), a group must establish a set of structural interre-
lationships which organize and coordinate individual actions. It is this
relationship between goal commitment and structural differentiation which
is discussed in this section.

Goals are a desired state of affairs to be achieved at a future point
in time. A group's goal commitment is a "collective agreement" among
participants regarding the purpose and objective of their joint efforts.
A goal commitment ". . . is not the simple sum of personal goals, nor can
it be directly inferred from them. It refers to a desirable state for the
group, not simply to a desirable state for individuals" (Mills, 1967: 81).
This commitment is the product of an initial interaction sequence whereby
individuals exchange information, arrive at a common definition of the
situation and agree on a course of action. Reaching a definition of the
situation, participants are confronted with the question: what ought to
be done? The answer to this question is in fact the articulation of a
goal. A group is said to have crystallized into an identifiable social
entity once it effects an action or goal commitment. While we are not
concerned with the initial collective behavioral aspect of group emergence,
we are interested in the relationship between goal commitment and early
group structural formation. A group's initial goal commitment tends to be
broad statements regarding general action areas. These broad objectives
become refined and specified once a group begins to interact with
environmental components and to pragmatically confront problems associated
with goal implementation.

Hypothesis 1: Goal commitment(s) provides a guiding framework for
       those group actions and decisions which create specific
       structural relationships.

Hypothesis 1-a: The establishment of specific goal commitments specifies
       task areas which must be designated and developed.

Goals provide a reference point for group activity and decision
making. Since a goal defines a future state, behavior becomes patterned
and structured to achieve this end. Tasks are divided among participants,

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positions become identified and defined and rules and regulations are
established, all for the purpose of creating an effective collective
effort toward goal achievement. It is difficult to ground this hypothesis
empirically since the mental construct of group goal resides in the minds
of group participants, hence outside the present "sociological" analysis
(Mills, 1967: 81). However, to underscore the significance of this
dimension we wish to go beyond merely an implicit assumption of goal
directed behavior and make an explicit hypothesis.

To specify the relationship between goal commitment and structural
differentiation, attention is directed to the formation of specific task
structures. Having obtained initial agreement regarding a particular
objective, a group crystallizes to implement action to achieve this end.
Given an articulated goal, participants must decide what tasks or
activities must be initiated. To differentiate tasks, an initial attempt
is made to logically subdivide the primary objective into component
elements which when taken together will increase the probability of goal
achievement. These component elements are essentially subgoals around
which activities become categorized. Participants assume and/or are
designated specific task assignments within these task categories. As a
group interacts with its environment and confronts operational problems,
further task differentiation occurs, modifying and/or replacing initial
task distinctions. This is an example of feedback processes in operation.

To illustrate this relationship we will examine briefly the San
Diego support group as compared to the Crest relief group. The support
group had as its major goal the assistance of firefighters, while the
major objective of the relief center was general fire-victim assistance.
These goals had specific ramifications with respect to subsequent task
structure formation. Support group activities were directed to aid
firefighters. To do so, task areas developed to provide hot meals, clean
clothes, medical aid and a coffee and sandwich relay system. These tasks
were broken into subtasks handled by specific individuals. Oriented toward
fire victims, the relief center developed appropriate task areas: food
and clothing distribution, registration, shelter arrangements and sponsor-
ship program. Because each group's goal differed regarding the target
recipients, different task areas emerged, each appropriately reflecting
the group objective. The impact of goal commitment on task structure can
be further illustrated by noting that all three relief centers studied had
a common goal -- victim assistance. Each in turn established similar task
structures: registration, food and clothing distribution and specialized
assistance programs. They differed only to the extent that they expanded
into other specialized assistance programs. This can be attributed to
differences in manpower and material resources rather than differences in
goals.

These examples illustrate that group goals have specific ramifications
for emergent task structure. Different ends require different means,
and to fully understand structural differentiation close attention must be
given to specific group objectives.

Hypothesis 2: As goals are achieved and redefined, corresponding
structural changes occur to implement new goal commitments.

As stated in the literature review, much has been written about goal displacement. Goal commitment is not conceptualized as a static phenomenon but rather as responsive to both external and internal environmental changes. As a group interacts with its environment through feedback processes, situational circumstances change, creating new demands which must be met. Often these demands fall outside the initial goal commitment, but because of their urgency they receive priority over previous goal commitments. In such an instance goals are redefined, which may entail making structural modifications. For example, the San Diego support group had as its original goal assistance to and registration of fire evacuees; however a new demand was placed on them by firefighters who required logistic support in the form of food, clothing and temporary shelter for rest and relaxation. This demand superseded the original goal of victim assistance (most fire evacuees had already been accommodated) and created basic structural changes: dropping former tasks; registration and clothing distribution; and adding new task areas; food relay system, preparation of hot meals, etc.

Similarly, any change, whether goal achievement or succession, creates corresponding structural responses. Having achieved its objective, a group may either disband, in which case structural relations are gradually phased out or immediately eliminated, or it may acquire new goals, i.e., goal succession, and create new structural relationships. In one instance we have structural contraction; in another, structural expansion. Structural contraction often characterizes emergent groups operating in a crisis environment. As group objectives are obtained and the crisis situation lessens, participants are pressured to return to previous interaction patterns. The only California group to actually disband while studied was the San Diego support group which designated a specific day for complete dissolution. The other groups experienced goal succession when tasks became organized around preparing and planning for a possible future disaster -- a mud slide.

In sum, goal commitments have a definite effect upon emergent group structural differentiation, necessitating the establishment of specific behavioral patterns and structural relationships geared toward goal achievement. In particular, task area formation is focused upon showing the relationship between tasks and specific group goals. Goal commitment is not static but responsive to changing environmental circumstances; as goals change, corresponding structural modifications occur creating new functionally interdependent relationships among participants.

Environmental Inputs

Social entities do not exist in isolation but rather are part of a larger environmental context with which they must interact to survive. Dependent upon the environment for participants, information, material resources, explicit directions and demands, a group must develop structural mechanisms for acquiring and processing these items. To understand fully how groups form, i.e., structurally differentiate, we must comprehend how environmental inputs affect the development of emergent groups. This section focuses on the concept of "environment", the nature of specific environmental inputs, and the effect that these inputs have on structural differentiation.

Environment is defined as the physical and social context in which a group exists. This definition implies that a group has a recognizable and definable boundary, with everything outside this limit being part of an external environment and/or situational context. Similarly, the environment may also refer to internal subunits and/or events which occur within the designated group boundary. External environmental input pertains to those items acquired by a group from external components; internal environmental input refers to items received by one subunit from another subunit within the same group. In the latter case specific reference is to exchanges between the administrative unit (leadership) and other structural subunits.

During early stages of group formation, when boundary designations have not been clearly delineated, the distinction between internal and external environment is extremely difficult to make. What exists is a "potential of becoming" rather than an established, well structured social group. As stated earlier, our analysis begins when several persons arrive at a common definition of the situation and agree on a particular course of action, e.g., goal. At this point a group has crystallized. Although an elaborate set of structural relationships have yet to be established, there does exist an identifiable unit providing a reference point for distinguishing between a group and its environment.

To establish a viable, functionally interdependent structure, a group must enter into an ongoing social system to obtain necessary legitimation and resource inputs. Entrance into such a system is dependent on the group's receiving recognition and legitimation from other environmental components, i.e., individuals, groups and organizations. Recognition occurs when information concerning the group's existence is transmitted by word-of-mouth, advertisements, and deliberate news releases by emergent groups to mass media outlets, e.g., radio, television, and newspapers. They in turn inform other organizations and individuals. In addition, acceptance and recognition of a group by established organizations, e.g., city government, police, Red Cross, civil defense, etc., further legitimates and helps establish a group into an ongoing social system. Once a group becomes recognized as legitimate, established groups and organizations are no longer reluctant to enter into direct interaction with the group and will provide it with necessary inputs to establish an operational structure. Our interest is in the nature of these inputs and their effect on structural differentiation. The following discussion is couched in terms of external environmental inputs, but the basic nature, processes and relationships will hold for internal environmental inputs. Only where there exists a discrepancy will we make a distinction.

To fully understand the relationship between inputs and structural differentiation we must recognize the effect that feedback and decision-making processes have on transforming inputs into usable and meaningful items. Inputs are a response on the part of environmental components, signifying recognition of the emergent group. These initial inputs begin a feedback process, i.e., a series of exchanges between a group and environment, which continues through the group's existence. As a group acquires information, manpower and materials, decisions are made regarding their interpretation, allocation and processing. These decisions transform inputs into usable resources for carrying out goal attainment activities. Group activity is manifested as outputs, which are essentially

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any action, information and/or resource expended by a group into its environment. These outputs are received by other environmental components which in turn process and respond to the outputs by sending further inputs back to the group, i.e., the feedback process. Since our concern is with structural differentiation in emergent groups, we will focus on that half of the feedback process concerned with how groups handle inputs by transforming them into meaningful and usable units for goal achievement activities.

Three kinds of environmental inputs are distinguished: (1) resources-- manpower and material, (2) information and (3) demands. Our interest is not in the origin of these inputs but rather with their nature. The following discussion briefly outlines each input type.

Resources. Formation of any social entity is dependent upon having sufficient resources to implement goal attainment activity. The most obvious and essential resource of course, is an adequate number of individuals for a collective effort. But beyond this human component, a group requires a wide variety of resources to develop successfully into a viable social system. These resourses are largely obtained from the external environment. Resources will be defined as any tangible support or assistance utilized by a system. Two resource types are distinguished: materials and manpower. Material resources are any item, e.g., technical equipment, food, clothing, money, etc., that provides to a system the wherewithal to implement goal directed activity. Each emergent relief center studied in California would have been unable to assist fire victims had it not obtained food, clothing, furniture, blankets, pots, pans, trucks, buildings, etc. These material inputs allowed the group to establish processes to accomplish its primary objective -- dispensing material assistance to fire victims.

Perhaps the most important resource of a group is manpower. Manpower refers to the human resources a group has at its disposal. Often a group will have more volunteers than it can effectively utilize. However for our purpose manpower will be defined as only those persons a group actually utilizes in terms of their time and talents. In the California cases, each group had sufficient volunteers to carry out its objective. Important for the group's development is individuals' ability to utilize or adapt existing skills to the new situation. The Malibu Community Action Group was fortunate that its manpower resources had the necessary "professional expertise" to carry out the objectives of community restoration and future disaster planning. Drawing on volunteers from a number of women's clubs, the San Diego support group successfully developed a system whereby clothes worn by firefighters could be laundered while they slept. Without adequate human resources a group would be severely restricted in its capability to carry out goal attainment activities.

Information. Information input is any message, signal or symbol that is transmitted to a system by verbal, written and/or technical means. These inputs comprise the content of communication, an essential element in any cybernetic system. Feedback processes are predicated on the free flow of information. Environmental components react to group outputs and respond by sending informational inputs to the group. These inputs are received by control units, i.e., leadership, which evaluate and assess the message

content with respect to future decision making. Information inputs are the only means by which a system can assess the effect of operational outputs and acquire knowledge of relevant environmental and situational changes. Each California group recognized the importance of informational inputs and made special arrangements to have an adequate number of telephones installed to technically insure free flow of information.

Three types of information are received by a system: (1) information about the external environment, (2) information about past events and (3) information about itself and its subparts (Buckley, 1967: 56). Each informational input provides essential knowledge that enables a system to make operational decisions, structural adaptations, and performance evaluations. In particular, emergent groups in a disaster context find information about the environment essential if adequate assessment of damaged areas, determination of available assistance and resources and identification of unmet needs is to be accurately obtained. As a group operates, past actions commit the group to specific future actions. To avoid duplication and effectively coordinate goal directed activity, groups must be cognizant of past actions and events. Lastly, involved in internal feedback processes is information about the group and its subparts. Communication channels between subunits must be established if a group is to maintain its ability to make accurate operational assessments and internal structural adjustments.

Demands. Demands are solicitations from environmental components requesting a group to respond in a particular manner. While many demands may be placed on a group, not all will be relevant to the group's primary objective. Before acting upon a demand request, an assessment is made regarding its legitimacy. Consideration is given to whether the demand is congruent with the group's goals and realistic in terms of the group's operational capacities. If the demand is defined legitimate and accepted, tasks develop and positions are created to process the demand. For example, the California relief centers received countless demands for assistance from fire victims. These requests were assessed for legitimacy by checking a list of burned-out families. If an individual was indeed a victim, assistance was forthcoming. In contrast, the Crest Center had a demand placed upon it to insure rent payments of fire victims relocating into new homes and apartments. This demand was beyond the group's financial resources and thus dismissed from further consideration.

In sum, environmental inputs are the raw material utilized and transformed by a group in order to establish itself and achieve its objectives. Since the major concern of this study is initial structural differentiation, emphasis will be placed on external environmental inputs. This is because internal structural arrangements have yet to crystallize into any identifiable form which would promote specific internal input exchanges. However, once structural relationships become distinguishable, internal environmental inputs come into play. The underlying processes for all environmental inputs are essentially the same. In each case feedback and decision-making processes transform inputs into meaningful and workable elements for the group. This brings us to our major hypothesis.

Hypothesis: Environmental inputs require that the receiving system develop structural components which will discriminate and act upon these inputs.

When a group initially crystallizes, little differentiation exists among participants; indeed, there is little necessity for it. However, as a group begins to interact with environmental components, inputs are received which necessitate development of structural mechanisms for input processing and utilization. Three structural elements become distinguished: positions, task areas, and rules and regulations. The following discussion focuses on the relation between inputs and structural components.

To process and utilize raw inputs for goal achievement, groups must effectively develop specialized positions which enable participants to focus on a circumscribed subset of activities. A single individual cannot carry out all tasks necessary for attainment of a group's objective. A division of labor occurs separating complex tasks into more manageable ones easily performed by one person. Perhaps one of the most complex tasks faced by any group is the handling and processing of materials, information, personnel and demands that group receives from its environment. The solution rests in designating each individual a specific area of responsibility, i.e., position. In so doing, a set of structural relationships emerge, linking each position in a network of interdependent relationships. By working together, the individuals each contribute to the overall group objective.

Environmental inputs also provide a locus around which specific positions develop. In the California group distinct positions formed to take care of sorting and organizing clothing and food items. The San Diego support group is a good example of how inputs help to structure relationships. Initially concerned with a large number of fire evacuees, distinct positions developed which focused on evacuee registration, stockroom management, telephone answering, coordination and medical care. Associated with each position was a set of activities geared toward processing specific environmental inputs. Evacuee registration was concerned with processing human inputs not as manpower but rather as demands. The purpose of registration was to assist evacuees in locating shelter, maintaining communication with family and friends and providing material assistance, e.g., food and clothing. The position of stockroom manager centered around receiving and processing material resources, e.g., food, clothing, soap, toothpaste, toothbrushes, etc. Accurate inventory was kept regarding receiving and dispensing of all material resource inputs. Telephone answering was an important position created to receive and dispense information. Without reliable communication, contact with environmental components would have come to a standstill and eventually undermined the group's goal attainment activities. Information is essential if accurate decision making and feedback is to occur. In each case, specific positions developed to facilitate information transmission. Coordination is generally a task assigned to a leader. This position is pivotal to effective processing and integration of manpower inputs. Lastly, medical care was assigned to two nurses who processed demands for medical assistance.

Specific tasks associated with a given position are greatly determined by the unique nature of inputs handled. For instance, receiving and processing clothing requires a different set of activities than receiving and processing a truckload of paper plates. Since the content of most

positions is likely to differ from group to group, we have chosen two positions to focus on which are likely to be found in any emergent group: leadership position and boundary position.

Leadership is essentially responsible for the overall coordination and processing environmental inputs. This position determines the ultimate legitimacy of demands, establishes priorities, internally allocates manpower and material resources, receives and assesses information inputs necessary for decision making and is responsible for maximizing utilization of all environmental inputs. The success with which these tasks are carried out varies, of course, from leader to leader. What is significant is that the groups studied so far have established leadership positions to discriminate and process inputs.

Having to interact with environmental components creates the necessity for establishing boundary positions. These positions provide inputs with points of entry which directly represent and relate the group to its environment. Any given group may have a number of persons filling boundary positions, e.g., telephone receptionists, leaders, truck drivers, registration personnel, liaison officer, etc. In each instance the position incumbent is responsible for providing an avenue of exchange whereby inputs and outputs can be received and dispensed.

Environmental inputs also help determine the nature of the task structure. To be effectively utilized, inputs require that a group create functional task structures to process materials, personnel and information. For example, the Crest relief center developed a task structure functionally oriented toward processing inputs received from individuals and community groups and organizations. Operational departments developed which were responsible for processing specific inputs: the clothing department sorted clothes according to size, sex, type and condition; the information department handled all incoming and outgoing telephone calls; the food department sorted and categorized food items paralleling retail store classification; the registration department recorded all contact with fire victims, keeping track of family needs and specific actions taken for each family; and the furniture department procured, repaired and housed all furniture donations.

Finally, rules and regulations develop to insure and regulate the flow of resources and information. These rules and regulations standardize behavior regarding input processing. In each relief center rules developed regarding how many items were to be allotted. For instance, at Harbison Canyon, each victim was allowed two saucepans, one frypan and one coffee pot. This rule helped control the flow of material supplies. Similar rules also developed for validating legitimacy of individual demands, dispensing information and distributing financial resources.

In sum, environmental inputs are an important factor influencing structural differentiation in emergent groups. Inputs are the raw materials which are transformed by a group into specific outputs. Before this is possible a group must establish a set of structural relationships which specifies and coordinates behavior. By designating positions, task areas, and rules and regulations, a group becomes an operating entity capable of coordinated goal achievement action. But without environmental inputs a group could not move beyond an initial amorphous crystallization stage.

Summary

The purpose of this chapter was to develop an analytical framework which would help clarify the process of structural differentiation in emergent groups. The dependent dimension, structural differentiation, has three structural components which were emphasized: positions, tasks and norms. Leadership positions perform essentially internal integrating and coordinating functions for the groups; while boundary positions are concerned with relating the group to external environmental components. Tasks are the activities carried out by group participants in order to achieve goal attainment. Lastly, norms provide pattern maintenance for the group. Two types of norms are focused on: regulatory and maintenance norms. Regulatory norms are explicit rules and regulations governing behavior. These norms are essentially instrumental; while maintenance norms are geared toward expressive ends of reinforcing participant motivation and morale.

The dynamics of our framework rest in the intervening dimension that focuses on internal group processes. Feedback processes allow the group to self monitor its own actions; thus, making internal relationships, actions, and policies congruent with external and internal environmental realities. Decision-making processes commit the group to specific actions and policies and coordinate internal structural components.

Lastly, four independent dimensions were isolated to help explain structural formation: size, previous patterns and attributes, goal commitment, and environmental inputs. To guide our analysis of new data, specific hypotheses were introduced to designate definite relationships between the various dimensions of the framework. Chapter V will now analyze new empirical evidence that will allow us to determine the framework's analytical usefulness.

CHAPTER V

Data Analysis: A Case Study

The purpose of this chapter is to bring empirical evidence system-
atically to bear on the analytical framework and specific hypotheses
developed in the preceding chapter. This chapter is divided into four
parts. First, a descriptive overview of the Windsor Park flood and
ensuring emergence of the Windsor Park Flood Relief (WPFR) is presented.
Based upon this general account, the next three parts examine case study
data -- first by focusing on the structural components which developed
in WPFR; next, by examining the feedback processes; and lastly, determining
whether the guiding hypotheses are substantiated by new empirical evidence.

General Description

On Monday, September 13, 1971, southeastern Pennsylvania experienced
severe flooding resulting from a heavy rainstorm which began Friday,
September 9, 1971. In the four day period, the storm dumped 4.65 inches
of water, causing Fairfield Creek and the tributaries of the Schuyskill
River to rise 15 feet in the business districts of two cities: Fairfield
and Norristown. Twelve persons lost their lives and over a thousand were
forced to leave their homes.

The city of Fairfield and surrounding boroughs experienced some of
the most extensive flood. In Fairfield alone more than 450 persons were
left homeless and four persons died. Late Monday evening residents were
evacuated to the Central Fairfield YMCA and five city fire stations. On
Wednesday, September 15, Ware County, in which Fairfield is located, was
officially declared a disaster area by the state governor. This author-
ized the use of state funds, equipment and personnel in restoration
activity. The following day the President of the United States declared
southeastern Pennsylvania a federal disaster area, which freed federal
resources and provided low interest loans to affected communities. In
the weeks that followed federal, state and local agencies and organizations
converged on the stricken area to provide assistance.

Windsor Park is a residential community of 1800 persons located north
of Fairfield, Pennsylvania, consisting of over 800 row houses grouped in
series of eight. While the community is more than ten years old, new
construction continues in what is referred to as the "lower end of the
development", i.e., a section of lower elevation. This segment of the
community runs adjacent to the winding Fairfield Creek which under normal
circumstances is a meandering stream. By and large, Windsor Park is
comprised of young families who have purchased their first home. Children
are abundant and much of the community's life centers around childrearing
and providing recreation for energetic young families.

Two active community organizations exist: the athletic association
and the civic association. The athletic association provides a wide

variety of sports programs for both adults and children, specializing in
an extensive Little League program for boys. Along with numerous sports
programs, the association maintains a number of athletic fields and
community recreational facilities. The civic association is somewhat
less dynamic than the athletic association. Comprised mostly of women,
its major focus is organizing community improvement programs. Members
of each association were to play key roles in the subsequent emergent
group, Windsor Park Flood Relief (WPFR).

In the late afternoon of Monday, September 13, after four days of
torrential rain, Fairfield Creek began to rise rapidly above its banks,
moving up the sloping backyards of adjacent homes. By 5:00 p.m. water
began to inundate basements of many homes in low-lying areas. Many
individuals were unaware of the flooding until someone brought it to
their attention or happenstance led them to their basements. As the water
began to threaten household furnishings, neighbors began to assist one
another in removing items from basements to first floors.

Teams of four or five men, many members of the athletic association,
went from house to house offering assistance in moving washers, dryers,
freezers, furniture, storage boxes, etc. Around 9:00 p.m., with the water
still rising, many homes that previously had items moved from the basement
now were experiencing flooding on the first floor. These same volunteers
began again to move items up to the second floor. This activity lasted
until around 10:30 p.m. when water prohibited further movement in the area.

Evacuation began around 9:00 p.m. as water reached front door steps.
With additional volunteers, the same men began to evacuate women, small
children, and pets from threatened homes. Assisted by a number of small
boat owners who provided transportation service, families were moved to
dry ground where they were met by concerned neighbors who offered shelter
for the night. Throughout the evening as men worked to remove furniture
and evacuate families, a number of women gathered at the water's edge
with large coffeepots and cups, providing hot drinks for the volunteer
workers.

Expecting a housing (shelter) problem, it was suggested that Windsor
Park Elementary School be opened to receive displaced families. A local
school board member was contacted for permission to open the school;
however, as it turned out all displaced families were taken in by neighbors.
While not used to shelter families, however, the school became a center
for emergency-related activity. That evening word spread among volunteer
workers that the school was open and coffee and doughnuts were available.
Workers gathered at the school for hot drinks and to discuss the evening
experiences.

During the exchange of information at the school a rumor began
regarding instances of looting in downtown Fairfield. A suggestion was
made that something ought to be done to prevent such an occurrence in
Windsor Park. One individual presented an idea that security patrols be
formed for specific flood affected areas. A makeshift map was drawn of
Windsor Park, designating specific patrol routes. Those men who had
worked earlier that evening began to volunteer to walk security patrols
on a two-hour shift basis. A team of two unarmed men carrying only

flashlights covered each designated patrol area. The only problem
confronted by these patrols came from people who wanted to return home
to retrieve or check on something they had forgotten. While these persons
were discouraged from returning home, if they insisted they were then
escorted to and from the house if it could be reached safely. These
security patrols lasted throughout the night and continued for the
remainder of the week while restoration activity progressed.

Tuesday morning word had gotten around that individuals wishing
to volunteer for cleanup work should report to the school. While
officially closed for instruction, the school's administrative and
nonteaching personnel reported for work. Utilizing donated food and
volunteer assistance, the kitchen staff began preparing breakfast and
continued to serve meals for the remainder of the week.

To facilitate organizing volunteers, it was suggested that each
corner of the school cafeteria be designated for a particular activity.
Volunteers could then report to the area of their own choice. The
following four task areas were specified: child care, organized by
several women and staffed by teenagers so that mothers of small children
would be free to volunteer for cleanup; internal cleanup, which consisted
of going into damaged homes with mops, shovels and pails to wash down
walls, scrub floors, remove damaged household items, etc.; trash removal,
which essentially was outdoor cleanup -- shoveling mud from streets,
yards and porches and using large dumpsters to remove trash; and
collection and distribution of material resources, using volunteers to
collect food, blankets, diapers, baby equipment and countless other items.
Individuals chose one of these four areas, dividing into work teams to begin
massive cleanup and restoration work.

With this division of labor on Tuesday morning an all-out cleanup
and restoration effort began. For the remainder of the day small work
crews moved from house to house scrubbing down walls, removing damaged
furnishings, shoveling mud and doing countless other cleanup activities.

While cleanup activities were being carried out in the community,
those at the school slowly began organizing a central coordinating center.
The school secretary reported to work and voluntarily began answering
phone calls from private individuals, organizations and agencies wanting
to donate either time or material resources. Questions were continually
arising which had to be answered. The secretary in turn would ask those
gathered there whether anyone could answer the questions being asked.
One man, Mr. G., volunteered answers and by so doing rapidly became
defined as coordinator for the volunteer operation.

On Tuesday afternoon, two individuals responsible for establishing
security patrols got together and asked what assistance could be expected
from the township, local and state government. They felt it would be
beneficial to ask public officials, representatives from Red Cross, Civil
Defense, local banks and other relevant emergency organizations to come to
a general meeting to be held that evening to answer questions about assis-
tance and to inform people of available resources. Residents were informed
via bullhorn that an 8:00 p.m. meeting at the school had been scheduled.
About 450 people attended -- the largest number for any meeting held in
Windsor Park. At the meeting questions were directed to specific

organizational and political representatives. Promises were made to find
answers to questions that could not be immediately addressed. In addition,
information was dispensed on cleanup activities and a request was made
for more volunteers. After the meeting individuals signed up for different
cleanup tasks and volunteered to assist at the school. Many housewives
volunteered to wash and dry needed clothing.

On Wednesday Mr. G., the coordinator, personally received a cash
donation to assist flood victims. To avoid any possible problems
surrounding the acquisition of money, Mr. G. went to a bank adjacent to
the school to open an account. A bank official informed him that the
volunteer group should establish itself as a legal entity in order to have
its own account. Following the bank's advice, five people went to the
bank and signed papers that established the Windsor Park Flood Relief Fund
(WPFRF). Three individuals were authorized to dispense dunds; while Mr. G.
signed papers designating him as president of WPFR. At this time the
emergent group had fully crystallized into an identifiable entity. By
Wednesday many men who had volunteered on Tuesday had to return to normal
employment activities. Women in the community undertook the bulk of the
cleanup tasks, assisted by men after work and by those men who had
flexible work schedules. Fortunately for Windsor Park, a number of
residents were tradesmen, e.g., plumbers, carpenters, furnace and appliance
repairmen. Responding to an urgent need, these individuals were willing
to donate their time and skills to help restore damaged household items.
In addition, two local politicians, who had the necessary contacts and
prestige to influence outside organizations to volunteer material
resources, were instrumental in obtaining needed community resources.

Communication throughout the week took several forms. General
community meetings were held on three evenings. At each meeting, experts
would inform residents of proper procedures to maximize claims for federal
and state assistance. To keep residents informed of the changing community
needs, a flyer (ditto announcements) was printed and distributed by Girl
Scouts to each house. In one instance, when word came that the water
supply was contaminated, residents had to be informed immediately. This
was accomplished by having a car drive up and down each street using a
blowhorn to announce that water should be boiled at least twenty minutes
before use.

On Friday, September 17, pressure was placed upon WPFR to vacate the
school so that normal instruction could begin. The developer of Windsor
Park donated use of a vacant house as the new WPFR headquarters. All
material resources were moved from the school to the house and several
telephones were installed. By that day, southeastern Pennsylvania had
been designated a federal disaster area entitling residents to federal
assistance programs. Another general meeting was scheduled that evening
to tell people about the availability of federal assistance and how to
fill out necessary forms. At this meeting an announcement was made that
with the assistance of several military reserve units a massive cleanup
would be conducted on Saturday and Sunday. This would be the last major
community cleanup effort.

On September 22, it was announced that the WPFR headquarters would
be closed and that the officers would continue to conduct flood-related

business and inform residents of any changes or problems. Residents
were told not to throw away damaged appliances but that neighborhood
tradesmen and mechanics would assist in salvaging damaged goods. Those
items which could not be salvaged could be replaced at a discount price.

Throughout the fall several projects were organized to raise money
for WPFR and the Worrilow Memorial Fund (Worrilow was a resident who had
lost his life helping rescue an elderly couple). Women in the community
organized a dinner and fashion show and men scheduled a benefit basket-
ball game; a block party was also organized. During the fall officers
of WPFR, working closely with local politicians, negotiated an agreement
with the housing contractor to prevent future building on the flood plain
and to construct a dike to prevent future flooding. By the end of
December, the WPFR funds had been distributed and the organization
disbanded. However, long-term repercussions of this experience were felt,
particularly in the election of two former WPFR leaders to the positions
of President and Vice-President of the civic association.

The remainder of this chapter is divided into three sections. First,
an analytic description is presented to delineate specific structural
components: positions, tasks and norms. This discussion gives the
reader a basic understanding regarding focal structural dimensions that
emerged in the formation of the Windsor Park Flood Relief Group. Next,
feedback and decision-making processes (the intervening dimension) are
illustrated. These processes comprise the adaptive or cybernetic mechanism
of a system and provides its basic dynamic quality. Lastly, the guiding
hypotheses developed in the previous chapter are examined with respect
to this specific case study. These hypotheses interrelate a series of
independent dimensions with the dependent variable, i.e., the development
of group structure.

<center>Dependent Dimension -- Structural Components</center>

Positions

This study concentrates on the emergence of leadership and boundary
positions. Leadership is important because it provides necessary inte-
gration and coordination of internal systemic subparts, while boundary
positions focus on relating or mediating the relationship of a system to
its environment. Although many distinguishable positions exist within
established groups and organizations, emergent groups, which are essentially
ephemeral in character, often do not develop a complex set of positional
relationships. However for a group fully to crystallize and become inte-
grated into an ongoing system, the emergence of leadership and boundary
positions is necessary. For this reason these two positions demand our
concentration and attention.

The emergence of a WPFR leader went through two distinct phases.
The first attempt to establish leadership was aborted when on the third
day a permanent leader emerged who was capable of providing direction and
integration to the group. The initial effort to establish leadership
occurred Monday evening, September 13, when volunteer workers gathered

at the Windsor Park Elementary School during the late evening and early
morning hours. At this gathering information regarding the evening
experiences was exchanged. Concern was expressed that Windsor Park might
experience looting since so many homes were empty and unguarded. Two men,
Mr. H. and Mr. B., suggested that security patrols be formed to guard
homes in the affected flood areas. Under their leadership, patrol routes
were established and security teams organized to walk a two-hour shift.
Mr. H. and Mr. B. worked throughout the night to coordinate the activity
of these security teams.

On Tuesday morning both Mr. H. and Mr. B reported to the school and
began organizing cleanup work crews. Mr. H. coordinated the field cleanup
effort, while Mr. B. attempted to organize volunteers arriving at the
school. Consulting together later Tuesday afternoon, both Mr. H. and Mr.
B felt that a conscious attempt ought to be made to coordinate local
community volunteer response with official township relief activities.
They decided to contact township officials and invite them to attend a
scheduled community meeting intended to inform residents about what was
being done and to enlist their assistance in a massive community cleanup
effort. Mr. B. chaired the meeting that evening, redirecting questions
to appropriate public officials and organizational representatives. At
this time it seemed apparent that both Mr. B. and Mr. H. were establishing
themselves as leaders of WPFR.

However, all this changed on Wednesday when both Mr. B. and Mr. H.
concentrated their efforts in organizing and establishing field cleanup
crews. Both men spent the day away from the school and the activity
occurring there. The school was quickly becoming the disaster headquarters
for the community. Volunteers arrived for work assignments, material
resources were donated and the telephones rang constantly. Demands and
questions grew steadily, increasingly taxing school personnel who were
trying to assist. Finally, Mr. G. stepped forward to take charge. The
following is his statement of this leadership transition:

> I more or less got involved because I started answering
> questions. I was in the school cafeteria the second day after
> the flood, which was Wednesday. Mrs. H., the school secretary,
> came screaming out of the office, saying "Listen, does anybody
> know anything about such and such?" And I said, "What do you
> need, Mrs. H.?" And she said, "Well, there's a gentleman on
> the phone who wants to know something about such and such,"
> so I went in and I took the phone and I talked to him. I said,
> "Well, I don't know now, but I'll find out. Give me your
> number and I'll call you back." So I went out and I would
> find Mr. P. (the township commissioner) or somebody who had
> a little authority in the community and ask about getting
> a truck that this guy needed or something.. . . whatever the
> question happened to be.

> The next time she (Mrs. H.) ran out into the hall,
> she knew me by name and she said, "Mr. G., could you help
> me? I got a man here on the phone and he wants such and
> such. So the first thing you know, before I finished that
> call another line rang and she says can you help this woman

and so I helped that woman and answered her question or promised an answer, if I didn't have it. I told her I would call back in twenty minutes or something. I made some sort of decision for her and that satisfied her, but the thing was it also satisfied Mrs. H., because she was getting deluged with phone calls that she had no way of handling. She had a body standing in front of her who apparently had the rest of the day off and the first thing you know I was up to here in the office and couldn't work my way out of the office because I seemed to be an asset there at the time.

Several factors are worth noting in this leadership transition. First, Mr. G. possessed a valuable attribute in his ability to articulate decisions and define the situation for others. Thus, other individuals quickly recognized, accepted and turn to him for direction. Acting in their capacity as boundary personnel, Mrs. H. and Mr. P. were instrumental in defining Mr. G. as the legitimate WPFR coordinator. Outside organizations and agencies were told to direct their inquiries to him. Furthermore, by making future action commitments Mr. G. not only obligated himself but others in the group to specific future actions. Finally the position was officially legitimated when Mr. G. signed bank papers designating him as president of the WPFR.

Late Wednesday, Mr. H. and Mr. B. (earlier leaders) returned to the school to find Mr. G. entrenched in the coordinator's position. Both men were willing to redirect their own interests exclusively to community cleanup activities, accepting Mr. G's ability to administer and coordinate relief efforts. Several factors help explain the smooth transition and establishment of new leadership. Because most men had to return to work, shortage of manpower existed for heavy cleanup work. This manpower shortage compelled both Mr. H. and Mr. B. to concentrate their energies in the field rather than at the school. This in turn lead to a leadership gap at the school which was eventually filled by Mr. G. In terms of our analytical framework, two factors facilitate this leadership transition.

While the WPFR had not yet fully crustallized, certain systemic processes were, however, already operating. Essentially what occurred was an illustration of "self-awareness feedback". Recalling our earlier comments, self-awareness feedback is an internal process which monitors group activities, defining and recommending necessary adjustments and adaptations. Returning to school, early leaders received information and inputs from other participants regarding the effective performance of Mr. G. as coordinator. Accepting this information as a legitimate assessment, structural adjustments were made creating new field positions and reinforcing the existing coordinator incumbent.

Maintenance norms seems also to have facilitated this leadership transition. Maintenance norms are shared standards of behavior which reinforce a high level of motivation and morale, which in turn leads to voluntary cooperation and altruistic acts on the part of group participants. Many instances of camaraderie and "esprit de corps" were reported by WPFR volunteers. Referring to this leadership transition, Mr. B. stated ". . . that transition didn't bother me. I felt that, fine, if this guy wants to stay up at the school . . . and he was needed up there . . .

that's fine and dandy, there was enough to be done for everybody. I felt that I could stay out in the field and kind of coordinate it out there." Although displaced as coordinator by Mr. G., Mr. B. assumed a field leadership position.

While the emphasis here is on illustrating the establishment of the position of coordinator, several other leadership positions crystallized. Briefly, they are as follows: field coordinator, who handled the coordination of work crews and the logistical movement of all trucks and heavy equipment; and security coordinator, who was responsible for establishing security patrols, assigning volunteers specific patrol hours and coordinating patrol teams in the field. Numerous task leaders emerged and assumed responsibility for organizing and coordinating small volunteer work groups. The actual number of identifiable leadership positions fluctuated greatly depending on which tasks were being carried out. While periodic reference is made to subordinate leadership positions, the major emphasis here is given to the position of overall coordinator.

Incumbent leaders concentrate their efforts upon coordinating and integrating internal subunits and activities, while boundary positions develop to mediate relations between the group and its external environment. Fortunately for WPFR, elected political officials were present throughout the emergency and restoration period, providing a link between the community and available resources in the external environment. Three officials were particularly instrumental in filling boundary positions. They were a state representative, a township commissioner and a township supervisor. By utilizing their political influence, these individuals established countless contacts throughout the city, township and state which proved useful in obtaining needed manpower and material resources. The following accounts present several descriptions of boundary role activity.

Describing the general community meeting:

Mr. B., an early leader, more or less directed questions to principles like state representative, S.K. and township commissioner, J.P. These are the political people who had the power. They could, you know, chase down contractors and things of this nature for the job that had to be done. They eventually were the keynote to the entire operation. We couldn't have done it without their efforts in getting response from contractors for trash removal.

Description of an instance utilizing boundary officials:

Do you know anybody who can contact the Navy yard with a little influence? Of course, to me that was State Representative K. and I called him in. I said, "Mr. K., we got something going for us. If you have any influence down at the Navy yard . . ." So he says, "What do you need?" I explained; he got on the phone . . . Zap! Bang! and they immediately sent trucks up.

It got to a point where . . . I would tell K. what I needed and he would say OK, I'll take care of it and then

he'd come back and say I got what you wanted. After three days it was a matter of his saying, "Okay, take this number; is is so and so . . . Tell him I told you that we needed such . . . and . . . such."

These accounts illustrate perhaps the most useful function of boundary personnel, i.e., the procurement of resources. As stated in the above quotes, boundary officials were instrumental in obtaining trucks for trash removal, volunteers and equipment from military reserve units and countless other items, from the use of school facilities to fresh water tank trucks. In addition to assisting in requisition of resources, boundary personnel have functions in any operating system. First, boundary incumbents provide a linkage between the group and other organizations and environmental groups. The township commissioner and state representative attended numerous coordinating meetings with civil defense, Red Cross, state and federal government representatives. The boundary officials would then report back to Windsor Park residents with information regarding available manpower and material resources and federal assistance programs.

Another important function of boundary incumbents is to legitimate the group and its activities to environmental components. This was accomplished in Windsor Park by utilizing the prestige and power resources associated with public office. Once the group was recognized, available resources were acquired and operational contacts established with other organizations and agencies.

Reference so far has been only to obvious boundary positions that were critical to the successful relief operation. However, many others provided links to outside groups and organizations. These individuals provided entry points for channeling resources into the group. Examples of these positions are: the secretary of the school, who received and recorded calls to and from outside groups and emergency relief organizations; truck drivers, who transported donated material items, e.g., boxes, blankets, cots, food, mops, buckets, etc. In addition to the efforts of political leaders, many male residents who belonged to reserve units were instrumental in acquiring use of military trucks and equipment for community cleanup and restoration.

The distinction between leadership and boundary positions is not always as clearcut as in this illustration. Leaders often act in the capacity of boundary personnel and vice-versa. However, what we wish to emphasize is that the major activity associated with each position is indeed distinguishable. Leadership focuses on internal integration and coordination, while boundary personnel provide important links to external environmental components. Both positions are essential in establishing a viable, functioning group.

Tasks

A group's task structure is the specific configuration of work activities necessary to accomplish a given objective. By dividing tasks among participants, greater efficiency can be achieved in the utilization of manpower and resources. Tasks may range from simple routine work activities to a complex sequence of interrelated actions requiring a wide range of skills and abilities. A task structure is related to specific

goal commitments and environmental demands placed on a group. While these relationships will be treated later in detail, a descriptive account of the WPFR task structure makes little sense if not couched within the context of goal commitments and environmental demands. Briefly stated, the WPFR goal commitment was the total cleanup and restoration of the community. Tasks were formulated and carried out within these parameters. Environmental demands also dictated specific task formation, requiring the group to arrange and adapt their activities to changing environmental circumstances.

Monday evening, rising flood waters presented a direct threat to personal property and individual safety. This threat supplied the impetus to organize volunteer work crews for removing household items from inundated basements and for carrying out an evacuation effort. The activities necessary to accomplish furniture removal were fairly routine, requiring little skill or expertise. Evacuation efforts required skill in navigating small boats through waters ridden with obstacles (fire plugs, curbs, shrubs, etc.) threatening damage to small craft. Evacuation went beyond merely helping people leave their homes; it also included finding shelter for those displaced. This was done by individual residents volunteering their homes to evacuees.

Further task differentiation occurred late Monday evening when residents gathered at the Windsor Park Elementary School to exchange information regarding the existing flood crisis.

> . . . We realized that there was 157 homes involved in
> this thing and so we were going to have to set this place
> (the school) up as a disaster headquarters, whatever you
> want to call it. At this point it was a matter of everyone
> talking for the first thirty minutes. Someone would say
> . . . we have to do this, we gotta do that . . . but we have
> to do this first type of thing. It was a matter of estab-
> lishing priorities on a somewhat disorganized basis at first
> . . . but the highest priority we put on anything was to
> establish security.

A security threat developed when the possibility was raised that looting might occur with so many homes unprotected. To accomplish this rather broad security objective, a number of specific task activities were necessary. Patrol routes had to be established, security teams organized, shift assignments made and field coordination conducted, and, of course, the actual patrolling of the area.

The immediate problem confronting Windsor Park residents Tuesday morning was the need to establish an extensive community cleanup program, to remove layers of mud and silt caked on roads, yards, and the interior and exteriors of homes. To accomplish this major objective, a complex task structure had to be developed which would focus not only on field tasks but also on supportive and administrative tasks. Field tasks required efficient coordination of numerous work crews who moved from house to house washing walls, floors and windows, removing debris and trash to the street where dump trucks hauled it away, and shoveling and hosing down mud from streets, sidewalks and yards. To assist and coordinate work crews, a field director was designated who made sure that cleaning

supplies were available and that dump trucks moved debris and trash.
An array of supportive tasks developed: establishment of a child care
center to free mothers for cleanup work; food preparation to feed
volunteer workers and families who had lost use of their kitchens;
acquisition of food, clothing, cleaning supplies, fresh water, money
donations and countless other material items; establishment of a laundry
system to wash and dry clothing of families who had lost their laundry
appliances. To coordinate and integrate supportive tasks with the field
effort, an administrative task structure developed to handle decision
making, communications and relationships with outside organizations and
agencies. The following statement by a volunteer best summarized the
development of a task structure.

> Well, at that point what needed to be done was we had
> to provide food for the people and we had to get them as much
> help as possible in cleaning up their homes. That evening
> (Tuesday) at that meeting we set up a committee of women.
> Anybody who wanted to sign up could. The next couple of days
> the goal was just to clean. . . help them scrub down the walls
> and so forth. We set up a trash removal system using township
> dump trucks, picking up trash and garbage and everything. We
> set up a group to take care of babysitting. I think it boiled
> down to basic necessities . . . people who needed help in
> moving furniture, people who needed refrigerators to store
> food, people who needed somebody to take care of their
> children while they could clean up their homes. It was just
> basically logical and common sense kinds of things.

The group's task structure continually changed as completed activities
were dropped and new tasks begun. Once actual physical cleanup had been
accomplished, attention was directed toward salvaging household appliances
and making structural repairs. These tasks necessitated the use of skilled
craftsmen. Fortunately, many Windsor Park residents possessed these skills
and volunteered their time and expertise to assist their neighbors. With
restoration nearly completed, WPFR directed its energy toward a series of
negotiations with the builder and contractor of Windsor Park. Several
meetings were held between WPFR representatives, political leaders and
the Windsor Park builder and contractor to reach an agreement to prevent
any future construction that would alter the flood plain adjacent to
Windsor Park. In addition, an agreement was reached to build a flood wall
along Fairfield Creek as protection against future flooding. Essentially
the tasks during the last phase of the WPFR operation were non-manual in
character, i.e., working to secure future community flood protection and
assisting residents in processing and obtaining damage claims from state
and federal assistance programs.

To summarize, the task structure developed in WPFR accomplished five
major functions: (1) the acquisition of capital and material resource
inputs; (2) the legitimation of the group's activity; (3) the procurement
of personnel with necessary skills; (4) the coordination of participants,
activities and environmental relationships; and (5) the processing of
resource inputs for successful goal implementation. The resulting task
structure enabled WPFR successfully to accomplish its state objective of
community cleanup and restoration assistance.

Norms

Norms are shared behavioral standards which help to regulate the course of social life. This section focuses on development of explicit norms, i.e., rules and regulations, which prescribe and proscribe social relationships among group participants by establishing and reinforcing a high level of motivation and morale. Both types of norms played a critical role in integrating and maintaining WPFR.

While the extent to which regulatory norms permeate emergent groups is considerably less than established social groups, they do exist, providing guidelines for behavior. In highly bureaucratic organizations positions have specific rights and duties associated with them. Likewise, in WPFR, the position of coordinator clearly had specific rights and duties which were manifested in the amount of discretion and latitude given him in making decisions regarding policy determination and resource acquisition and allocation. The following statement illustrates this point. (To preface this comment, the respondent had just recounted the trust and confidence bestowed on him by elected political officials.)

> I think because they had this faith in me, it allowed me
> to move. . . . it didn't hold up or hamper things because
> I was bold enough to make a decision and then say, "well, you
> know, sink or swim, it's done. He's coming with four trucks
> and if he's not needed, we'll put 'em someplace else." It
> seems to me they just gave me a blank check without saying
> so and I assumed it. And I used it and didn't take advantage
> of it and just kept it under control. I don't think I ever
> reached the pinnacle of the authority I could've assumed.

While these rights associated with the position of coordinator were implicit, they became overtly manifested in the incumbent's behavior. An extension of these rights was carried to relationships with outside organizations and agencies. ". . . I developed this air of assuming people would respond to our need from outside . . . and by God they did." Although the question still remains as to whether these rights and duties were granted or assumed, the fact is they did exist and influence behavior.

Regulatory norms are also employed to delineate specific operational procedures and to control utilization of specific material resources. Although few explicit operational rules existed, regulations regarding access to the community did develop. To prevent the convergence of sightseers, a roadblock was established at the only entrance to Windsor Park. Individuals requesting admission to the area had to show a driver's license giving a Windsor Park address. Outsiders with legitimate business in the area were given an escort to their destination.

Explicit rules developed to regulate the allocation of scarce resources, money in particular. A request was made asking that all receipts be kept so that people not donating their services could be reimbursed. To protect the withdrawal of money from the WPFR bank account, two signatures were required on each check. This provided a double check insuring legitimate distribution of funds. Paint was another scarce resource, necessitating a rule which restricted each person to one can of paint. ". . . we figured some restriction would make people think

about their fellowman." While regulatory norms were established to govern overt behavior, an additional consequence was the effect they had on attitudes.

However, attitudes were directly affected by maintenance norms which focused on reinforcing motivation and morale. While not a major sociological dimension, maintenance norms do play a crucial role in group "pattern maintenance". These norms become manifested in altruistic acts, a general sense of goodwill and an overt commitment to group goals. The following statements illustrate maintenance norms:

> . . . It's just a great community effort. I can never believe anything like it . . . from the younger kids to the older people.

> . . . this experience just makes you feel wonderful to be in this community.

> The one thing that amazed me too is that of all the victims, we didn't hear anybody complain. No one went around feeling sorry for themselves . . . it's just amazing.

> I have stipulated to Mr. G. that I will not receive money from the WPFR fund. I felt that I am a little more solvent than others; plus I feel as though I want to donate my time and energy because of the community and because of the people that are involved.

> No one felt that anything was beneath their dignity. In fact there were a couple of women who were remarking jokingly how they were paying to have someone clean their homes . . . women who always have regular help each week . . . for the first time were out there scrubbing.

Avoiding the social psychological consequences of maintenance norms, we wish to acknowledge their direct impact on individual behavior within a group.

In summary, while the normative structure is less explicit than the other structural elements considered, it is just as essential for establishing an operating group. While regulatory norms govern overt behavior and activities, maintenance norms create the necessary "esprit de corps" among participants which establishes and reinforces motivation for continued involvement, i.e., pattern maintenance.

Intervening Dimension

So far this discussion has concentrated upon delineating static structural components which emerged in WPFR. Attention is now given to illustrating the feedback process which permits a group to monitor its own actions such that necessary adaptations and adjustments can be made to facilitate goal achievement. Feedback is a continual process, involving the initiation of output (i.e., information, action, resources, etc.) by a group into its environment. These outputs are received and affect

environmental components (other groups and organizations), which in turn
respond by sending informational and/or material inputs back to the focal
group. On the basis of these return inputs (feedback), assessments are
made by group decision makers who are responsible for monitoring and
steering group action toward goal achievement. Simply stated, the concept
"feedback" provides a useful framework for analytically focusing upon the
continual process of interchanges which occur between a group and its
internal and external environmental components. The following incident
illustrates this general process.

> We needed mops, buckets, brooms for the cleanup we had going
> on in individual homes. I got hold of Mr. B. and said,
> "B., get the yellow pages and start calling the hardware
> stores and see if you can't get donations of mops, buckets
> and brooms." And lo and behold, one of the stores we called
> said, "What do you need?" I said, "We need very large
> quantities of detergent and cleaning utensils." "Well,
> what kinds of quantities are you talking about?" And I
> said, "Well, ma'am, we got 157 families in Windsor Park with
> silt and slop all over their floors, so I guess it looks like
> I need 150 mops, brooms and buckets. And by God we got 'em."

In this particular incident, the group's action output was a tele-
phone call to hardware stores (i.e., environmental components). One
store which received this output request for material resources responded
by "feeding back" to the group an informational output -- "what and how
much do you need?" This prompted the decision maker (i.e., the coordi-
nator) to assess community needs, which, when determined, required sending
an informational output requesting 150 mops, brooms and buckets. In
return, the environmental component (hardware store) dispatched to the
group needed material resource inputs. This action sequence illustrates
in general terms the continual feedback process which operates between
a group and various environmental components.

Three distinctive feedback processes occur. The first type involved
determining whether or not a group is progressing toward its target goal.
The other two are more specific, involving an interchange between (1)
external environmental components and the focal group, and (2) internal
environmental components (i.e., group subparts) and the focal groups
control unit, i.e., leadership. To illustrate how these feedback processes
operated in WPFR an example of each type is presented.

Goal seeking feedback involves determining from informational inputs
whether or not current activities are moving the group toward its
objectives. Instrumental in acquiring and assessing goal achievement
feedback was the WPFR coordinator. He stated:

> I deliberately made a 360 degree tour of the area and would
> ask the girls at the refreshmen stand if they needed any-
> thing. They said, "We're running low on sugar," so I'd
> write that down in my notebook; then I'd get down to the
> site a little further and meet someone else who needed
> something or had a suggestion to make.

Making these daily tours of the affected areas allowed the coordinator to obtain crucial informational inputs from volunteer workers regarding problems and progress in cleanup activities. On the basis of this information, the coordinator would make action assessments to determine if activities needed to be altered to further facilitate the group's goal attainment progress. In instances of "positive" feedback no alternations were necessary; however, when feedback is negative, i.e., a condition needs to be changed, as in the above instances regarding the refreshment stand, the coordinator takes appropriate corrective action, e.g., supply sugar to the stand.

Reconstitution feedback focuses on changing internal structural relationships so that group activities are congruent with environmental realities. Monday evening, when water was still rising, individuals involved in furniture removal started to receive informational inputs regarding changing environmental circumstances. No longer was flood water threatening just the material contents of homes; the actual safety of families had become a real consideration. This necessitated a decision to alter the task structure by switching from furniture removal to evacuation activities.

Another instance illustrating reconstitution feedback is the establishment of a community communication network.

> I knew that we weren't gonna be able to keep dragging these
> these people up out of their homes for meeting after meeting
> after meeting . . . what came to birth was the flier and at
> the meeting I told them that the flier was gonna be developed
> and they would maybe get one a day or might get two a day,
> but it would be a system of communication where Mrs. F. would
> take information from me in the form of special bulletins and
> announcements and maybe even a lost-and-found thing. She would
> then ditto up the information sheets to be distributed to each
> household.

Observing that attendance at the second general meeting dropped from 450 to 200, the coordinator realized that this form of informational exchange with residents would shortly become ineffective. This prompted a decision to create a new communication structure which would deliver directly to each household a dittoed announcement containing current informational outputs. In effect, what occurred was that informational inputs (a decrease in meeting attendance) were received by the coordinator who in turn made a policy decision to create a new communication form manifested in a new group output -- a house-to-house flier.

Whereas reconstitution feedback focuses on external environmental inputs and the focal group, self-awareness feedback turns inward, emphasizing internal environmental inputs and their impact on group action. The following account illustrates the process of self-awareness feedback.

> I made a large change. Mrs. R. came to me one morning or
> one day at noon all upset and said, "I prepared this
> morning's breakfast for 200 people and only 35 showed up
> and I scrambled eggs, and had toast, coffee, jelly, cereal,

fresh apples, milk, and God knows what all." She said, "I
deliberately served breakfast until 11:30. We're gonna
have sandwiches for lunch because of it." She was a little
upset and I said, "Okay, Mr. R., I don't know the answer,
but I'll find out for you by the end of the day what we're
gonna do tomorrow." "I wish you would please because I
just can't throw away 150 breakfasts." I talked about it
the next day and I went down and I found that girls in the
neighborhood down here headed by Mrs. S. had got themselves
a half dozen card tables and a couple of umbrellas and here
they were feeding these guys coffee and beer. I found that
Mrs. S. was stealing the thunder for breakfast and come to
find that the people desired not to come up out of the flood
area for breakfast because it meant washing their hands and
cleaning up and then coming up and losing time. Then you
always get involved in a little BS while you're up there
and you get back to the site late and there its about 9:30
before you get working and the first thing you know its
11:30.

What was required was a continental breakfast. To hell
with the hot breakfast with all the eggs and everything
that was required. We went into a continental. We went
into pastries, doughnuts which we had Dunkin Doughnuts and
places like this offered to us by the ton . . . whatever
we needed . . . they saved their excess.

Mrs. R. was in charge of food preparation and kitchen personnel, a
functional subunit of WPFR. By "feeding back" information inputs to the
coordinator, operational problems regarding the ineffective utilization
of food resources were articulated. Pursuing this problem further,
additional inputs were acquired from other subunits, delineating a new
internal need -- a more efficient time-saving food service. A situational
assessment occurred and a decision was made to alter the internal structural
arrangements of the food service department. Tasks changed. Instead of
preparing elaborate hot meals breakfast now consisted of coffee and
pastries, while sandwiches provided a quick and adequate lunch. This change
required organizing a food relay system to transport coffee and box
lunches to work site refreshment stands. This structural change increased
the efficient use of manpower and resources which in turn contributed to
the attainment of group objectives.

The preceding discussion of feedback has purposely neglected treatment
of the decision-making process, whereby control units (i.e., leadership)
receive, assess and interpret inputs to determine appropriate response
outputs. However, we now wish to focus briefly on this process.

As discussed earlier, there are three types of decisions: policy,
allocative and integrative. Incorporated into each preceding feedback
example was a "choice" of selecting an appropriate response output. These
choices were predicated on assessment and interpretation of environmental
inputs. For example, in the instance of goal-seeking feedback, the
principal concern was to determine whether group activities were
efficiently utilizing manpower and material resources. In his daily tours
of the affected areas, the coordinator made choices encompassing the entire

range of decisions. However, in this instance a corrective action (resupplying refreshment stands) was taken to integrate component units into the coordinated group effort.

Policy decisions are concerned with making fundamental choices regarding group goals. In the example of reconstitution feedback, a policy decision was made delineating a new output, i.e., the issuance of dittoed informational announcements. It was anticipated that by doing so a better communication network would be established between WPFR and community residents.

Lastly, in the example of self-awareness feedback, all three types of decisions were employed. An allocative decision was made when tasks and resources were reallocated to make food preparation more responsive to the workers' needs. This decision necessitated a change from serving hot meals to preparation and distribution of packaged meals. Instituting the continental breakfast was an example of a policy change requiring internal structural readjustment to create a new food transport system and several refreshment stands. Lastly, by coordinating food service activities with the field workers' needs, group integration was achieved through a more efficient use of manpower and resources.

Decisions were based on very pragmatic considerations rather than upon a methodical collection of information and conscious choice between one of several carefully articulated alternatives. In each instance, decisions were "instrumental", i.e., based on incomplete information and expedited by time pressures which never allowed full consideration of alternatives.

In summary, this discussion illustrates how intervening feedback processes permitted WPFR to monitor its own actions and make necessary structural adjustments to facilitate goal achievement. Continued assessments are made of internal and external environmental inputs, which provide the basis for decisions regarding action outputs. These outputs may be designed to make internal structural adjustments, or they may be geared to manipulating and/or responding to external components. In either case, this process allowed WPFR to make structural self-adjustments so its actions would be congruent with environmental realities.

Independent Dimension

Goal Commitment

Goals are ends or objectives to be achieved at a future point in time. As stated earlier, any study of structural differentiation ought to include explicit treatment of goals because the form and content of subsequent structural relationships are strongly influenced by the particular character of the goal commitment. To accomplish any given objective, a group must develop a set of structural relationships to organize and coordinate individual action for collective ends. The following hypotheses guide our discussion:

Hypothesis 1: Goal commitment(s) provide a guiding framework for those group actions and decisions which create specific structural relationships.

given was the donation of surplus resources, primarily clothing.) While broad in scope, the major goal commitment of WPFR did place locational parameters upon assistance, with specific subgoals (e.g., food preparation, child care, trash removal, etc.) defining task area content.

The second guiding hypothesis concerns the relationship between change in goals and structural differentiation. The hypothesis is stated as follows:

Hypothesis 2: As goals are achieved and redefined corresponding structural changes occur to implement new goal commitments.

Structural relationships are not static in that once formed they continue to exist. Structural components are responsive to change and in particular to changing goal commitments. Goals change in several ways. They may be achieved, in which case structural relationships designed specifically to implement that goal are no longer necessary. Many instances of goal achievement occurred in Windsor Park. For example, the work crews and tasks which developed Monday evening to assist in furniture removal and evacuation dissolved as tasks were accomplished and as new objectives became articulated.

Objectives also change as needs become redefined. The goal of providing hot meals for volunteer workers was redefined when the need changed to quick distribution of ready-to-eat foods. This entailed altering task activities formerly designed to insure preparation of hot meals. Now activities were geared to packing box lunches and serving a continental breakfast to volunteers at the work sites. A new set of tasks developed, ranging from assembly-line sandwich making to a food tran port system. By altering structural relationships, a shift occurred which reallocated materials to insure effective implementation of new goal directed activities.

Goal redefinition occurs when new objectives take precedence over existing goals. This occurred in Windsor Park when the coordinator received word that the water supply was contaminated. All task activities ceased and a total effort was directed to notifying residents of water contamination. "Everything on my desk didn't matter. I had the safety of a thousand people which took precedence over everything else."

To implement this objective new tasks were initiated which focused on driving up and down each street and alley announcing over a bullhorn that water was contaminated and needed twenty-minute boiling before use.

To summarize, the development of structural relationships is heavily determined by the character of the particular objectives sought by the group. Broad goal commitments must be subdivided into more manageable objectives which designate specific courses of action to achieve desired ends. Likewise, as objectives change so too do structural relationships. While for analytical purposes emphasis has been placed on differentiation of task structure, a similar relationship exists between goal commitments and other structural components.

Size

The relationship between size and structural differentiation has long been recognized. Based on previous studies which recognized size as a key independent dimension affecting the development of structural relationships, two hypotheses are set forth in this study:

Hypothesis 1: As the size of an emergent group increases, there is a corresponding structural expansion.

Hypothesis 2: As the size of an emergent group decreases, there is a corresponding structural contraction.

It was originally felt that these hypotheses would be readily substantiated by the empirical evidence. However, unforeseen problems arose in obtaining accurate size estimates regarding the number of group participants. No official membership record was kept. And although there were a number of special volunteer listings, they were at best incomplete and in many instances thrown away before this researcher could retrieve them. While lacking accurate size estimates indeed prohibits any firm substantiation of the above two statements, there is some evidence that with increasing and decreasing size there was a corresponding structural expansion and contraction, respectively. This evidence rests on basic agreement among core participants regarding the "relative" size associated with different developmental phases. The following comments are based on rough size estimates. While not precise, these estimates do document that a fluctuating membership did exist. Of interest here is the "relative magnitude" associated with each phase.

Monday evening, when flood water threatened personal property and safety, between 25 and 30 men formed volunteer work teams to assist in moving household items and later help evacuate. On Tuesday, confronted with a massive community cleanup, estimates place the number of volunteer workers between 250 and 300. This figure dropped greatly on Wednesday when many men had to return to work. Estimates for the remainder of the week (Wednesday,through Friday) ranged between 75 and 100 workers. (In any case, considerably less than on Tuesday.) The weekend brought a major increase to 500-550 workers, comprised largely of servicemen from military reserve units. After this last massive weekend cleanup attempt, the group stabilized to between 8 and 10 persons depending on any one specific time reference. Granted, these are rough estimates; the fact remains that size fluctuated greatly. To provide credibility to our hypothesis corresponding structural expansion and contraction should be observed during these phases.

Monday evening witnessed the first attempt at structural formation when 25 to 30 men formed small work crews. Other than the simple formation of work crews, few task or positional distinctions occurred during this phase. Tasks were routine in character, requiring physical strength rather than technical skills. Later that evening two leadership positions emerged in an effort to organize security patrols and potential volunteers. A rather simple division of labor occurred at this time with one leader in charge of establishing security patrols and the other attempting to organize volunteers for Tuesday's cleanup activities.

The corresponding structural expansion anticipated with the large size (250-300) increase on Tuesday was not as pronounced as expected. The group did experience development of specific task areas, e.g., food preparation, child care and cleanup crews; however, there was little of the coordination or integration expected with an effort this size. Several explanations might be advanced. First, a time factor may be operating in that sufficient time had not passed for distinct positions and task areas to be developed. However, an even more plausible explanation might be found in the nature of the problems and tasks confronted. The major problem at this time was the massive cleanup of mud and silt from streets, yards and homes. Few technical skills were needed nor was there a need for coordination (outside of merely shoveling mud and washing down surfaces). The majority of the 250-300 participants engaged in these routine cleanup tasks, which required little coordination or task differentiation.

It was not until Wednesday that an extensive structural expansion occurred when volunteers dropped to a fairly stable 75-100 and the nature of the cleanup tasks changed. By Wednesday tasks became more differentiated and more nonroutine in character. The debris and trash collected on Tuesday now demanded removal. This necessitated an extensive coordination effort to insure efficient movement of trucks in and out of the community. In turn, supportive tasks were necessary to assist field workers for the continued cleanup tasks ahead. The Windsor Park Elementary School became control headquarters, housing a number of task committees: food preparation, clothing distribution, child care center, administrative personnel, etc., all working to support and coordinate the massive community cleanup efforts. Identifiable positions are established to carry out specific task responsibilities, e.g., each committee had a designated leader. As size stabilized, the structure became refined necessitating fewer and fewer modifications. By Thursday a well-coordinated, functional operation existed.

On Saturday and Sunday a final massive cleanup effort was conducted with the assistance of 500-550 men from military reserve units. Again, the rapid increase created little structural expansion in relation to size increase. While tasks were routine in nature, an additional compounding factor was the fact that these reserve units brought with them their own structure. The question might be raised here as to whether or not these servicemen should be included in WPFR. While operationally they utilized their existing structural relationships, administratively, they were under the direction of the WPFR leadership. It is indeed difficult to clearly separate the two efforts. Accepting the reserve units as part of the WPFR response, what then were the structural changes? While structural adaptations were made to handle additional coordination and integration problems, the most obvious expansion occurred when a new task area formed to cordon off Windsor Park to outsiders and sightseers. This entailed a whole new sequence of task activities.

After the weekend effort, the WPFR effort contracted to 10 core workers comprised of those who held leadership positions. Task activities were combined. Whereby previously the coordinator had allocated tasks to volunteer workers, he now had to perform both administrative and operational duties. The committee structure changed with fewer committees and the same persons serving on those that did exist. This last operational stage did indeed reflect a structural contraction.

In summary, the distinct relationship between changing size and structural expansion and contraction was not clearly supported in this case study. This can probably be attributed to the fact that size is not a "pure variable", i.e., a unitary phenomenon. As shown, size is highly affected by a number of intervening variables compounding its effect upon structural differentiation. More evidence systematically gathered to control intervening factors is needed before the hypothesized relationship between size and structural differentiation in emergent groups could be clearly supported or refuted.

Previous Patterns and Attributes

The formation of a new set of interdependent relationships is a continuous process predicated on previous patterns and attributes. Individuals participating in the formation of new groups enter the social situation already possessing established behavioral patterns, normative references and a unique configuration of personal characteristics. What in effect occurs with the crystallization of a new group is a synthesis of their previous behavioral patterns, structural patterns and human attributes into a new set of functional interdependencies. This section will concentrate on further delineating these relationships as manifested in the WPFR case study. The guiding hypotheses for this discussion are as follows:

Hypothesis 1:   Prior interaction patterns identify and recruit specific actors for emergent group participation.

Hypothesis 2:   Previous structural and procedural patterns are utilized to establish a set of functional interdependencies in emergent groups.

Hypothesis 3:   Usable human attributes are utilized to differentiate participants into specific positions and to allocate tasks.

Interaction Patterns.   In a crisis situation individuals turn to family, friends and others with whom they are acquainted in order to receive assistance and comfort. By drawing upon previously established relationships, an individual has a ready resource with which to initiate a collective action. The following example illustrates this point:

> I saw two friends of mine in water up to their necks on Woodworth Road. They had a flashlight that they were holding over their heads. I waded out to them . . . come to find out it was my next door neighbor, J. So I yelled to him if he had any kind of trouble. He said, "No, but there are a lot of families around here that do. There are people that have to get out; they've got small children but this water is over their heads." So he said, "Get some guys . . . we're gonna have to get down in here and start pullin' these people out of here."

In this instance previous friendship ties helped establish the initial collective effort eventually snowballing in a community-wide project. The request was made to "get some guys". This referred to a friendship clique

established in Windsor Park which centered around participation in a number of community organizations, in particular the athletic association. Drawing upon these previous relationships, a rapid mobilization of volunteer participants occurred, facilitating emergence of a larger collective community effort.

Previous interaction patterns also eliminated random task allocation, since prior knowledge of a person's ability could be utilized in making task assignments. This is reflected in the following comments:

> I've known her for quite a few years. She is the kind of person that you knew could go on her own and do it if I weren't there. She could direct others . . . I just had confidence in her.

> I've lived here going on six years and I've been active in the community. I coach football and baseball. This gets me to meet a lot of people . . . a lot of parents. In many cases we ask for volunteers to do a certain job like lime the field or do nominal tasks under the program for youth. You can tell from working around here whether or not a guy has, you know, the spunk to just pitch in and do a job or if he just shows up to shoot the breeze.

The first remark presented the rationale of the clothing coordinator for asking one specific woman to fill the position of assistant clothing coordinator. Having had previous contact and knowledge of her ability, the clothing coordinator felt confident in allocating this particular task assignment. The second comment by the WPFR coordinator stressed the role previous interaction played in determining his evaluation of which individuals could be relied upon to "pitch in" and carry out task assignments. This knowledge determined which individuals he would approach for assistance.

Structural and Procedural Patterns. Structural patterns refer to specific forms in which social relationships are arranged, while procedural patterns refer to operational steps used in carrying out activities. These patterns are utilized to facilitate structural formation in emergent groups. Individuals take previous structural forms and apply them to new situational contexts. This was evident in the formation of WPFR. For example, the administrative unit followed the traditional bureaucratic differentiation of having specific task leaders responsible to a coordinator, who in turn worked closely with established political leaders. In effect, a chain of command existed specifying duties and responsibilities for each position. Formation of functional positions also followed common bureaucratic structural distinctions, e.g., a coordinator (boss) and his secretary. Subsequent division of labor between coordinator and secretary followed traditional distinctions with the coordinator conducting transactions and making decisions, while the secretary recorded these transactions and handled paper work. This was a familiar arrangement for both the coordinator and secretary since each had experience in a large organizational setting performing similar roles.

The creation of an outdoor food service followed the common practice of establishing strategically located refreshment stands. This pattern

is particularly popular at outdoor sporting and social events and was easily adapted to the WPFR situation. Similarly, many other structural patterns were obvious adaptations of previous structural form.

Procedural patterns offer a convenient mode of operating, particularly in an unfamiliar situation. The coordinator relied on many previous operational patterns to assist in carrying out his new tasks. He states: "I had to come up with a checklist. I do the same thing at work. I'm not a very organized individual and, as a result, I become extremely organized by necessity." Familiar procedural patterns were followed by many participants. The secretary who formerly held this same position in a business drew heavily upon previously learned secretarial procedure.

So she immediately started to gather papers together and when I would get on the telephone and started groping for a pen she picked up a tablet and said, "Just go ahead and talk," and I would repeat whatever the person was saying to me over the phone . . . then she would write down what I was repeating. She also started to organize my desk. And when I'd say well, that's taken care of, she'd wad it up and throw it away.

By utilizing previous secretarial experience, Mrs. F. could readily adapt to a similar role in the WPFR effort. Formerly learned operational patterns were used to establish bookkeeping procedures for recording and receipting cash donations.

Usable Human Attributes. Individuals come to new groups already possessing a wide range of skills, knowledge, and experience which in turn become valuable resources for the group. These individual attributes play a crucial role in determining which participants become differentiated into specific positions. Fortunately for WPFR, residents possessed a wide range of technical skills which could be utilized. A number of craftsmen, e.g., carpenters, plasterers, painters, plumbers, electricians, refrigerator repairmen, etc., in the community donated their skills to help restore and rebuild homes.

An interesting phenomenon occurs in emergent groups whereby individuals often acquire roles which are similar to those held in other situational contexts. This process is labelled "role carryover" since there is a transference of roles. For instance, individuals who held leadership positions in WPFR also held leadership positions in other groups. One person stated:

I could take all the key figures in the flood disaster, every one of them, and show you somehow or other how they dwell in some capacity of leadership of dependability.

Many references were made to this process of role carryover.

I think my managerial prowess, whatever that is worth, got me into a position of leadership in this thing.

Mr. G. knew I was a lawyer and felt that an attorney should be consulted when cash donations were received. He asked if I would sit on the WPFR board.

In addition to professional role carryover, sex role distinctions also persisted throughout the group's operation. This is reflected in the following comments:

> . . . certain things you just know. Women knew what had to be done that concerned women and the men knew what had to be done that concerned men.

> My husband kind of went with the men and I got with the women.

> The men did most of the work in the homes. You needed hard backs to move furniture. While we knew immediately all the women were going to do the washing, ironing and cooking.

> . . . the girls naturally never interfered. They never decided to make decisions for us except in the form of help.

Besides occupational and sex role carryover, individuals also utilized any previous experience which was relevant. For instance, when the security patrols were formed the organizer drew upon his own experience with military patrols to help structure and coordinate patrol teams.

In summary, previous patterns and attributes strongly influence the nature and character of structural differentiation in emergent groups. What this dimension demonstrates is that while new groups form, the structural and behavioral patterns utilized are not new. There is indeed continuity between old and new organizational forms. In effect what occurs is a synthesis of previous structural patterns, behavior patterns and individual attributes resulting in a structural form which is responsive and functional within new situational circumstances.

Environmental Inputs

In a complex industrial society it is hard to imagine any group existing in isolation. Groups need to interact with their environments in order to obtain necessary resources for their survival. This section discusses a very important dimension affecting structural differentiation, i.e., the inputs a group receives from environmental components. The specific nature or character of environmental inputs strongly influences the particular structural manifestations that crystallize in a group. Three major inputs have been designated: demands, information and resources, both manpower and materials. Each are considered separately, indicating its particular effect upon structural development in WPFR. The guiding hypothesis of this section is:

Hypothesis 1:   Environmental inputs require that the receiving system develop structural components which will discriminate and act upon these inputs.

Demands.   Demands are any solicitation from environmental components requesting that a group respond in a particular manner. While many demands may fall outside the legitimate group domain (i.e., goal commitment), those that are congruent with major group objectives are considered. This often necessitates establishing specific structural components to act

upon these demands. In the instance of WPFR, environmental demand inputs
strongly influenced the character of the subsequent task structure that
developed. The following comment describes one of the original demands
placed upon the group and the ensuing task structure that developed.

> . . . husbands of these families were yelling to us to go in
> and assist them with their furniture and everything. We went
> into utility rooms, disconnected washers and dryers and carried
> them up to the first floor. Now this is where things began to
> get organized. Somebody decided that they were gonna form
> crews so that they could work better . . .

The original demand faced by the collective came from flood victims
threatened by water damage to household items. In response to this demand
a number of work crews developed to go from house to house removing
furniture.

As the week progressed and the community moved through different
phases of cleanup and restoration, the nature of demands changed requiring
new structural components which could process these demands. Perhaps the
most pervasive demand was for cleanup. Cleanup determined to a great
extent many of the group activities, from the establishment of work crews
to support tasks geared to assist volunteers, e.g., food preparation,
child care, resource procurement. In turn supportive task areas were
also predicated upon legitimate demand, e.g., the child care center was
a response to demands from mothers who wished to be free to engage in
cleanup activities. Virtually every structural component could be traced
back to a demand request which was congruent with the group's goal commit-
ment.

Information. Having discussed informational inputs within a feed-
back context, we now wish to focus on the impact these inputs have upon
structural differentiation. As mentioned earlier, informational inputs
are any message, signal or symbol transmitted to a system of verbal,
written or technical means. The distinction between information and demand
rests in the fact that a demand specifies a particular response, while
information inputs provide a wider response latitude because they require
assessment and interpretation.

A good example of the effect informational inputs have on the
delineation of structural components is illustrated in the formation of
security patrols.

> . . . we heard that there was looting in Fairfield. We
> didn't want anything happening here in Windsor Park so we
> set up a night watch . . . twenty to thirty men took turns
> every two hours walking security patrol.

Based on informational inputs regarding looting in Fairfield, those
present Monday evening created a security force which patrolled Windsor
Park for the remainder of the week.

When information was received that the community water supply was
contaminated, a series of tasks were initiated to insure the health and

safety of residents. A volunteer was designated to drive up and down streets and alleys announcing over a bullhorn that the water was contaminated and needed boiling before use. Another individual was assigned the task of obtaining water tank trucks to be strategically placed throughout the community. In response to additional informational inputs that children disrupted the efficient use of these water trucks, a "rule" was established which prohibited children from playing near water trucks. One could continue giving countless examples of how information inputs influenced the formation of specific structural components. However, the evidence gathered from the WPFR case study definitely substantiates the importance of these inputs.

Resources. Resources are any tangible support or assistance received from external components and utilized by the group. Two basic resource types are designated: material and manpower. Material resources refer to such items as clothing, blankets, cots, money, trucks, paint, ice, boats, building, food, etc. A group is confronted with the problem of converting and/or processing these resources into usable commodities for goal attainment activities. To convert or process these materials, task structures are developed, positions designated and rules and regulations formulated.

With an influx of clothing donations, a separate clothing department had to be established to sort, catalogue, and box clothing so that it could be later distributed. (As it turned out there was little demand for clothing.) An effort was also made to record all donations. This entailed assigning a specific person the responsibility for record keeping, particularly with respect to money donations.

Being a scarce and valuable resource, money donations ultimately led to the legal establishment of the WPFR fund. Once cash donations were received by the coordinator, a decision was made to establish a bank account. This entailed establishing WPFR as a legal entity with specific persons designated as its officers. On the advice of a bank executive three persons were designated to distribute funds, and for any given check at least two of the three signatures were needed. Elaborate rules and regulations also eventually developed for distributing funds.

In addition to money, paint was another scarce resource. To regulate paint distribution a rule was established limiting paint to one can per person. While specific rules and regulations developed to regulate the flow of scarce material resources, positions also were created to control resource flow. The donation of dumpster trucks required that a field coordinator be designated to coordinate logistical trucking movements. Particular attention was given to insuring efficient use of trucks, i.e., always having a pick-up at delivery points.

Perhaps the most important group resource is manpower. Without sufficient personnel the crystallization of a new group could not occur. Needless to say WPFR was fortunate in having a sufficient number of volunteers to carry out its objective. To facilitate the processing of volunteers a room was set aside at the school where persons could sign up for specific tasks. Among other functions, the coordinator's secretary was asked to maintain volunteer lists so assistance could be coordinated with need.

The largest source of manpower came from military reserve units that volunteered to assist in community cleanup:

> We had help from the Air Force and Navy Reserves and from the Army Corps of Engineers. The reserve units happened to be on weekend maneuvers. So they came down and put in their regular weekend in Windsor Park.

It was estimated that between 500 and 550 individuals were available for the massive weekend cleanup effort. With this many men and their equipment, it was decided that to facilitate movement in the community a roadblock would be necessary. Besides residents and volunteer workers, no one was allowed into the community. By establishing this roadblock, the convergence of sightseers was prevented, thus permitting a more organized and efficient cleanup effort.

In summary, the effect that environmental inputs have on structural differentiation is extensive. While we are able to present only a few examples here, virtually all structural components could be traced to one or more environmental inputs. However, this relationship is not free from compounding intervening factors. But given the present inability to control intervening factors, this study still contends that environmental inputs are an essential independent factor in determining structural differentiation.

Summary

This chapter has systematically applied new data to the analytical framework to see whether this framework could be substantiated. The first three sections were concerned primarily with presenting a descriptive account of the emergence of WPFR, its structural components and operational feedback processes. Of the three structural components delineated, only the normative structure did not fully develop. This might be attributed to the temporary nature of emergent groups, where emphasis is placed on "doing" rather than "regulating". Feedback processes are a continual sequence of interactions between a group's control unit and internal and external environmental components. These processes accounted for structural adaptations made by WPFR in response to a changing situational context.

Lastly, an evaluation of the guiding analytical hypotheses was made. Four independent dimensions were focused upon: goal commitment, size, previous patterns and attributes, and environmental inputs. Of these dimensions, only size could not be clearly substantiated with this data. It was suggested that, since size is highly interrelated with many other social indicators, what occurred in this instance was a compounding effect of intervening factors upon the relationship between size and structural differentiation. To some degree each independent dimension was contaminated by intervening factors; however, the relationship between the other independent dimensions and structural differentiation still held. This problem is further discussed in the following chapter. For the most part, we conclude that the analytical framework is indeed substantiated by new empirical evidence and proves to be a useful device in understanding structural differentiation in emergent groups.

CHAPTER VI

Summary and Conclusions

The intention of this study has been to further understanding regarding structural differentiation in emergent groups and to delineate important dimensions associated with this process. Given the lack of knowledge concerning this process, our approach by necessity has had to be exploratory in nature. By using an inductive methodological approach important independent dimensions were derived from relevant literature and empirical evidence gathered from a number of case studies in California. Placed within a modern systems theoretical perspective, these dimensions were synthesized into an analytical framework to explain structural differentiation. It was the development of this framework and its application to new empirical evidence that comprised this study's central objective. The following discussion will review and summarize findings, evaluate the usefulness of the analytical framework and suggest direction and guiding hypotheses for possible future research.

Review and Summary of Findings

While this review of research findings concentrates on the relationship between independent dimensions and structural differentiation, a few comments are in order regarding structural components and feedback processes. Three structural components were specifically focused upon: positions, tasks and norms. Both the WPFR and the California case studies exhibited highly differentiated positional and task structures, while creation of an extensive normative structure was minimal. The absence of a highly differentiated normative structure raises questions regarding the relevance of this component for the formation of emergent groups. While an elaborate normative structure was not manifested in emergent groups studied, the contention is still that behavioral norms (whether explicit or implicit) are essential for achieving pattern maintenance in emergent groups.

Several explanations are advanced to account for the minimal presence of a normative component in emergent groups. A normative structure is concerned with establishing shared standards of acceptable behavior. Two types of norm were focused on: regulatory and maintenance. Regulatory norms refer to rules and regulations which govern behavior; maintenance norms are implied understandings that create a high level of motivation and morale. Empirical evidence gathered in this study strongly supports the presence of maintenance norms manifested in the "esprit de corps" exhibited in groups. However, maintenance norms were not intended to be a major dimension in a "structural" analysis. Instead an attempt was made to demonstrate creation of a highly differentiated "regulatory" normative structure. But this was not the case. Apparently, need for explicit rules and regulations, which so often govern behavior in established organizations, is not imperative in emergent groups. Those regulatory norms that developed concentrated on controlling distribution of scarce resources.

Absence of regulatory norms can be traced to several factors. First, emergent groups formed in crisis situations exhibit different character- istics than established groups and/or new groups developed in a noncrisis context. A noncrisis situational context permits the luxury of methodical planning and purposeful control, while crisis situations create demands which force emergent groups to concentrate on "acting" rather than planning and regulating group activities. Regulations that do develop in groups which form in a crisis often are attempts to restrain obvious dysfunctional behavior that could undermine the group's existence.

The groups studied in this research did emerge in a crisis situation. Faced with a common threat (a natural disaster) group participants were drawn closer together, cooperation was voluntarily extended and tasks were conscientiously carried out. These "voluntary" actions probably decreased the need for regulatory norms. More will be stated later about the situational context and regulatory norms. However, because main- tenance norms are manifest and do affect or regulate behavior, this study contends that a normative structure is a necessary structural component in emergent groups.

Feedback processes indeed proved a useful conceptual tool in analyzing emergent groups as self-regulating and adaptive systems. Included in these processes were decision-making actions which committed groups to specific outputs. The empirical evidence gathered substantiated the existence of these processes and in turn further assisted in interpreting and specifying the relationship between independent dimensions and emer- gence of structural components.

Three of the four independent dimensions were supported by the empirical evidence. Only the effect of size could not be fully substan- tiated by the data. Previous studies by the Disaster Research Group (1958), Form and Nosow (1958), and Zurcher (1968), etc., found that emergent groups are "continuous" in nature. This study also confirmed this finding. Emergent behavior is not a spontaneous or discontinuous response but is predicated upon a reformulation or synthesis of previous existing patterns and attributes. Prior structural and procedural patterns are utilized to establish and structure new collectives. Emergent group participants also draw on previous experience, skills and knowledge in determining which positions and tasks they assume and/or are allocated. Available individual attributes become valuable resources for a group and facilitate development of structural interdependencies. Usable attributes provide immediate legitimation for individuals who either assume or are designated specific positions. This study clearly supports and reemphasizes the continuous extensions of emergent patterns from institutionalized behavioral patterns.

While stated as an implicit assumption, a modern systems perspective accepts goal commitment as a determinant factor affecting social behavior. This study contends that any analysis of structural formation must explicitly take into account the nature of these determinant goals. The empirical evidence presented in this study documents this relationship and substantiates a statement by Scott ". . . that the specific goals pursued will determine in important respects the characteristics of the structure" (1964: 490). The WPFR case study demonstrated how broad goal

commitments must be subdivided into specific task objectives in order to organize a collective effort to achieve primary ends. It was also documented that structural adaptations and modifications occur when goal commitments change by being either achieved or redefined. This was illustrated when WPFR passed through various phases of cleanup and restoration.

Environmental inputs, including information, demands, and manpower and material resources also proved to be extremely important in affecting structural differentiation in emergent groups. This dimension is essential to a modern systems perspective because feedback processes are predicated upon interaction with environmental components -- the source of inputs. Without mobilization of environmental resources a group could not crystallize or carry out goal directed activity. Specifically, we have seen how WPFR participants developed positional and task structures to process and transform input resources into usable commodities for goal attainment actions. In addition, a set of regulatory norms also developed to control distribution of scarce resources.

The only independent dimension not clearly substantiated was the relationship between size (specifically expansion) and formation of structural components. This variable became problematical for several reasons. As mentioned earlier size is not a unitary variable but is strongly affected by compounding intervening factors. In the WPFR case study the intervening factor influencing the relationship between size and structural differentiation was the "routine" nature of tasks handled the day following the flood. These tasks required little differentiation since the majority of the 200-250 volunteers were doing the same activity, e.g., shoveling and hosing mud and silt from streets, walks and yards. The anticipated degree of structural expansion, corresponding to the magnitude of size increase (from 30 to 250 volunteers), did not occur. While there was some differentiation regarding support tasks, this involved only 20 to 25 volunteers at most.

Rough size estimates also inhibit rigorous testing of this relationship. While we were able to verify that size fluctuated with different developmental phases, an accurate size count would have assisted in clarifying this relationship. This problem of gathering accurate data on size is attributed to the crisis environment. Given the immediacy and urgency of demands, little time exists for meticulous volunteer registration. However, in California case studies, where size never exceeded thirty core participants, the relationship between size and structural formation appeared to hold. But again the nature of the problem confronted and the situational context in California were entirely different. One possible solution to this size problem would be control of possible intervening factors. This seems impossible given the methodological techniques of current field research. However, as will be suggested later, perhaps one answer rests in conducting laboratory experiments of group emergence. This would allow the researcher to control many intervening and compounding factors.

Evaluation of Analytical Framework

Since the research objective was the development of an analytical framework to further understand structural differentiation in emergent groups, a few summary comments regarding this framework's applicability are in order. No analysis has yet to be totally inclusive. An attempt to utilize one particular analytical perspective over another is bound to have both strengths and weaknesses. This study is no exception.

A major weakness of this analytical framework rests in unresolved methodological problems which are associated with its application to empirical data. While the dimensions may be analytically distinct, problems arise when we attempt to operationalize these dimensions. Specifically, operationalization of feedback processes proved to be extremely difficult. At best these processes could be tapped only through obtaining data regarding a consistent sequence of operational activities which illustrate a specific feedback set -- input, decision and output. Hopefully, future research will be better able to operationally isolate and identify these feedback processes. Additional problems arise when an attempt is made to depict process in terms of static concepts and distinctions. By doing so, a distortion occurs in the representation of a dynamic flow. However, this is inherent in the study of any process.

Another obstacle encountered in utilizing this framework resulted from the inability to control intervening variables which compound and/or distort the direct effect that independent dimensions had on structural differentiation. This was illustrated by the problems confronted in trying to isolate the effects of size upon structural formation.

Part of the difficulty in operationalizing analytical dimensions can be attributed to the nature of emergent phenomena. Group emergence is concerned with the formation of a new social entity and the creation of a new set of structural interdependencies. While established groups and organizations manifest fully developed structural relationships and processes, emergent groups are still in the process of creating these relationships. In many instances particular structural components may never fully crystallize because of the ephemeral nature of emergent groups. This problem occurred in identifying a distinctive normative structure in the groups studied in this research. However, as mentioned earlier, the effect of a crisis context may also account for the absence of an identifiable normative structure, e.g., explicit rules and regulations.

Lastly, the question can always be raised regarding whether or not the designated dimensions are indeed those which are most important. One process not focused upon, but which later appeared to affect structural differentiation, was the communication process. Because of the researcher's inability to be present during early phases of interaction, this dimension was nearly impossible to tap in the field situation. This, coupled with the simultaneous occurrence of activities in many locations, further barred accurate identification of communication patterns. To adequately study the effect that these patterns have on group development, the researcher must be able to observe and record all interaction. Given the diffuse nature of emergence in a field situation, perhaps the easiest way to tap this dimension would be in a controlled laboratory setting.

While limited in many respects, this framework does have a number of analytical strengths. First, by presenting the framework in the context of a modern systems perspective we are able to capture both dynamic and static aspects of structural differentiation. It is felt that this perspective represents social reality more realistically. Three major analytical advantages are derived from using this theoretical perspective. First, a group is viewed as an interrelated system of component parts. These parts comprise the structural elements of a system. A systems perspective concentrates on the nature of these internal components and their interrelationships. This is particularly advantageous when the research objective is to understand structural differentiation. Because group formation is concerned with the development of internal structural components, any attempt to adequately understand this process must utilize a framework that permits examination of internal subunits, their relationship to each other and to the larger whole.

The second major advantage of a modern systems perspective is that it conceptualizes social systems as having a self-adjusting or adapative mechanism. By utilizing feedback processes a system can monitor its own actions and take corrective steps insuring formation of an operational structure congruent with both internal and external environmental realities. These processes guide a system toward achievement of its stated objectives.

Finally, a systems perspective permits the study of different analytical levels by examining internal subunits, the social unit as a whole, or relationships with external environmental components, e.g., other groups and organizations existing within the community, state, nation or world. Since the researcher is not restricted to one particular abstraction level, this provides a great deal of flexibility in exploring and determining important causal relationships. Furthermore, Williams presents one more advantage to using a systems perspective:

> . . . greater economy of explanation is gained whenever we can show the flow of inputs and outputs among connected systems, for then it may be possible to explain many important social processes without requiring elaborate knowledge of all the internal processes of each and every system (Williams, 1970: 24).

While the above comments have concentrated on advantages associated with a modern systems perspective, some concluding remarks are necessary regarding the framework's content. Examination of the independent dimensions (size, goal commitment, previous patterns and attributes, and environmental inputs) showed that all relationships held except that posited for size. In this instance the effect of uncontrolled intervening factors influenced the relationship. This study contends that in a laboratory setting where intervening factors can be controlled, the independent dimensions are broad enough to include the most important determining factors influencing structural formation, yet specific enough to allow for eventual operationalization of these dimensions. Also by focusing on three specific types of feedback an additional advantage accrues in that a variety of internal group processes can be studied.

This framework must be seen as an initial attempt to understand structural differentiation in emergent groups. This study has been

exploratory in nature and much is still left to be done before an
adequate model of structural formation can be constructed. While the
present framework is useful for explaining structural differentiation in
a crisis context, it is quite possible that study of emergence in non-
crisis situations will require additional dimensions and/or that modifi-
cation of existing dimensions be made.

Suggestions for Future Research

Before a truly thorough and accurate understanding of group emergence
and structural differentiation can be obtained, further attempts must be
made to take us beyond this exploratory research stage. First, a clearer
conceptualization is needed regarding the nature of emergence as a
phenomenon. Are there different types or classes of emergence? Is there
a distinction between planned versus unplanned group formation? Does
emergence in a crisis differ from emergence in noncrisis situation? Is
the nature of tasks a critical variable? A need exists for clearer under-
standing of the distinction between group emergence and group change or
reformulation. When do we have a new group versus just a recombination of
existing groups? Does one represent emergence while the other denotes
merely change? Also we need to know more about emergence that occurs within
an organizational context.

Some methodological problems encountered in earlier field studies
might be overcome if group emergence and structural differentiation were
to be studied in a controlled laboratory setting. A laboratory situation
presents the researcher with a unique set of methodological tools. Of
particular interest here is the ability to control intervening factors
which disturb the direct effect of independent dimensions upon dependent
dimensions. (Thus, problems encountered with size might be alleviated.)
The controlled aspects of a laboratory setting also facilitate development
of quantitative measures for key analytical dimensions. These measures
would further clarify the relationships between independent and dependent
dimensions and indeed provide a more rigorous test of the framework's
utility. We therefore view the laboratory setting as a very important
next step in further refining our analytical framework.

However, it must be remembered that the laboratory setting is an
abstraction from reality, since artificial controls are utilized to direct
and guide social behavior. After further clarification of the analytical
framework has been obtained, reentry into the field setting will again be
necessary. The field setting ought not be confined merely to a natural
disaster setting. A crisis situational context was used in this study
because it provided us with a situation that increased both the probability
of emergence and the ability to identify emergent groups. Given the
necessary resources, examples of emergence which occur daily in response
to unmet problems or needs could also be tapped. Countless groups have
formed to confront problems of pollution, racial and sexual discrimination,
and political and economic problems. With a little imagination and
sufficient resources these groups could be easily identified and studied.

Future field studies might also begin to test guiding hypotheses
regarding structural differentiation in emergent groups. Case studies

which would focus on group emergence in noncrisis situations need to be accumulated. These studies could isolate the effect that a crisis context has in determining structural formation in emergent groups. Also, studies of unsuccessful attempts of group emergence would help isolate key dimensions.

Along with these suggestions for future research, we now present some guiding hypotheses developed from this study. These hypotheses are only meant to be suggestions. Many have yet to be clearly substantiated and in some instances they are based on meager and highly inferential evidence. It must also be noted that these hypotheses assume that intervening factors can be controlled. Hopefully, these hypotheses along with the analytical framework will provide some direction for future research.

Guiding Hypotheses

Goal Commitment. Goal commitment(s) provide a guiding framework for those group actions and decisions which create specific structural relationships.

The establishment of a specific goal commitment(s) specifies task areas which must be designated and developed.

Goal commitment(s) create a specified domain which becomes further defined as the group interacts with environmental components.

As goals are achieved and redefined, corresponding structural changes occur to implement new goal commitments.

Size. As the size of an emergent group increases, there is a corresponding structural expansion.

As the size of an emergent group increases, there is an expansion in the number of formally designated positions.

As the size of an emergent group increases, there is an expansion in the size of the administrative component.

As the size of an emergent group increases, there is both a qualitative and quantitative expansion in task specialization and in the number of specifically designated structural subunits.

As the size of an emergent group increases, there is an expansion in the number of hierarchical authority levels.

As the size of an emergent group increases, a specific normative structure develops to integrate group activities.

As the size of an emergent group decreases, there is a corresponding structural contraction.

Previous Patterns and Attributes. Previous interaction patterns identify and recruit specific actors for emergent group participation.

Previous procedural patterns are utilized to develop and carry out task procedures.

Previous structural patterns are utilized in establishing new functional interrelationships.

The greater the bureaucratic experience of participants, the more likelihood the group will develop a bureaucratic operational structure.

Usable human attributes are utilized to identify and allocate participants for specific positions and tasks.

Individuals with known prior leadership experience are more likely to be accepted as legitimate leaders in emergent groups.

The ability to articulate and define a situational context to others increases the likelihood a participant will fill a leadership position.

Relevant skills, knowledge and experience are determining factors in allocating tasks to specific participants.

Environmental Inputs. Environmental inputs require that the receiving system develop structural components which will discriminate and act upon these inputs.

An increase in both quality and quantity of environmental inputs will necessitate a refocusing of the group's domain.

A changing environmental context necessitates concomitant structural adaptations.

Legitimate environmental demand requests necessitate formation of structural components to process demands.

The greater the number of information inputs, the more likelihood that boundary positions will be established to process inputs.

Valued and/or scarce resources require that a group develop rules and regulations which will regulate or monitor resource allocation.

The greater the variety of environmental inputs, the more elaborate the structural differentiation.

As the variety of environmental inputs increases, there is an attempt to identify homogeneous task segments and to establish structural task units.

While this study is concluded, it marks only a beginning in an effort to understand structural differentiation in emergent groups. Hopefully the knowledge gained from this study will be utilized in any future effort to understand the process of structural differentiation.

APPENDIX A

PHASE ONE CHECKLIST

(Points to be aware of in the interview) In discussions be sure to get specific time references and a complete list of the names, addresses and telephone numbers of each participant.

1. Background information -- occupation, education, special skills.

2. Events prior to involvement.

3. Decision to get involved -- when, where, how.

4. Individuals present and/or contacted.

5. Degree of previous interaction.

6. Situational context -- location in time and space.

7. Information inputs -- (intelligence gathering).

8. Level of uncertainty -- Did you have accurate information?

9. Search for meaning -- (screening information).

10. Accessment of some need.

11. Alternatives faced with.

12. Knowledge of outcomes of actions.

13. Choice of alternative -- why?

14. Keynoter -- leadership.

15. Definition of situation -- decision as to what to do.

16. Division of labor   -- how did it take place?
    Implementation   -- role emergence.
    Types of Demands   -- who initiated demands?
    Resources
    Trial Period   -- Adoption.

17. Legitimation (press announcements, acceptance by other organizations).

18. Formalization -- procedures, rules, regulations.

19. Chain of command -- stratification.

20. Leaderships -- names, "titles".

21. Degree of consensus of decision making.

22. "Esprit de Corps".

23. Communication -- within group/outside group.

24. What do you see as the future of your group -- if any? Will you come together in a future emergency?

APPENDIX B

PHASE TWO CHECKLIST

Structural Dimension	Processes	Independent Dimensions
Positions	**Feedback**	**Size**
Leadership	Reconstitution	**Previous Patterns**
Boundary	Self-Awareness	Interaction
Decision Makers	Goal Seeking	Procedures
		Structure
Tasks	**Decision Making**	
Task Leaders	Policy	**Usable Attributes**
Types	Allocative	Skills
	Integrative	Experience
Norms		Knowledge
Rules		Information
Regulations		
Esprit de Corps		**Environmental Inputs**
		Demands
		Information
		Resources
		Manpower
		Material
		Goal Commitment
		Crystallization
		Legitimation

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