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LOCAL MASS MEDIA OPERATIONS, PROBLEMS AND PRODUCTS IN DISASTERS*

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Acknowledgements

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PART I INTRODUCTION

Chapter 1. Introduction

From September 1985 through August 1988 the Disaster Research Center (DRC) at the University of Delaware undertook a study of local mass media response to community disasters. A total of 15 new field studies were undertaken for this research, fourteen in the United States and one in Canada (and for certain purposes comparable data from two earlier studies were also used). The research had a number of specific topical goals, namely the following.

First, we conducted a **survey** of all local media outlets in those communities in which DRC carried out field work for this study. The purpose of the survey was to document the involvement of the local radio, television and newspaper organizations in local community disasters. We were interested in establishing the degree and kind of participation in the response that the local mass communication system would show in disasters in their own areas.

Second, 32 **in depth case studies** were undertaken of the **largest and most involved** local radio, television and newspaper outlets. The primary goal of this second research objective was to determine the organizational structure and news processing patterns of these entities in the emergency periods of disasters. Specifically, we examined such intraorganizational and interorganizational elements as the gatekeeping process, the decision making structure, news sources used, and news processing during the emergency period and to compare these patterns with normal, day-to-day operations.

In addition, the study included an examination of what problems were encountered by local mass media outlets as they attempted to respond to the disaster. Again we looked at both intra and interorganizational problems.

Finally, the **content** of the media studied was examined. In depth content analyses were performed on radio, television and newspaper material that was broadcast, aired or published during or immediately after the disaster. Hours of radio and television tapes and hundreds of newspaper stores were analyzed.

This report presents a summary of the findings from this research endeavor. In Part II we focus upon the organizational analysis. We will present findings related to critical intraorganizational and interorganizational patterns. Furthermore, problems inherent in mass media coverage of disasters will also be discussed.

The results from an in depth analysis of 32 case studies are presented first. Subsequently, we present findings from the survey of all local media outlets. Part II concludes with a discussion of general themes derived from the analysis.

Part III presents the results of the content analysis of local media coverage. Over 900 local newspaper, television and radio reports or stories of local disasters were examined. In this summary report, we will present some major conclusions and themes from this analysis.

Finally, in Part IV we will briefly discuss a very few implications of both the organizational and content analysis findings, and present some suggestions for future research.

A discussion of the conceptual and methodological issues we had to address are presented at the beginning of both parts II and III. Since the nature of the organizational analysis and the content analyses involve different research methodologies and conceptual frameworks, they will be presented separately. However, as will be noted below, we assume that the content that is produced can only reflect the structure and characteristics of the organization that produces it. Furthermore, relevant literature will be reviewed within each portion of the report.

An important caveat must be noted. This is a summary report of a major research project, and is intended primarily to bring closure for research sponsorship purposes. This final report for the sponsor is neither inclusive nor exhaustive of the totality of the descriptive and analytical work that has been done. It primarily highlights the more significant and important findings and conclusions. While one M.A. thesis (Friedman, 1987), a general essay on mass media intra and interorganizational adaptations to disasters (Friedman and Wenger, 1988), a published annotated bibliography (see the 1988 DRC publication, Mass Media and Disasters: Annotated Bibliography) and a general review of the topic (Quarantelli, 1988) have already been produced from the research effort, an updated revision of this report already underway will provide more details of the empirical data. Additionally, there will be papers and articles which will deal with more specialized theoretical and methodological issues addressed in our work.

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PART II ORGANIZATIONAL ANALYSIS

Chapter 2. Assumptions From the Literature

As noted by any number of students of mass communication studies in the
last fifteen years, mass communication organizations are structured and
oriented toward the coverage of routine events (see e.g., Epstein,
1973; Altheide, 1976; Tuchman, 1978; Gans, 1979; Fishman, 1980). Under
the influence of organizational financial, technological, political and
legal constraints, these organizations establish traditional and
routinized patterns of coverage in response to expected, if not plan-
ned, events.

Thus, the infrastructure of news gathering is geared for covering the
expected event. The major sources of news are press conferences, wire
services, syndicated services, press releases, and routinized "beats"
with traditional sources (see e.g., Sigal, 1973). Furthermore, mass
media organizations work within the rather stringent time frames of
their deadlines and programming. Their organizational decision making
structure, gatekeeping patterns, and news production activities are all
oriented toward filling an allotted amount of time or space each day
with news. The most efficient manner in which that can be done is to
routinize the process, eliminate surprises, and construct a news
product based upon a known and controlled environment.

When a major disaster occurs within a community, this pattern is
necessarily altered. The occasion is not a routine one (see, e.g.,
Barton, 1970; Dynes, 1974; Kreps, 1984; Drabek, 1986). The event is
news in all local communities; it is a story that must be covered.
However, due to the frequently large magnitude of the event, its often
unpredictable nature (in the sense of the specific consequences which
may be produced), and the disruption of both the social and physical
environment, it is a story that does not lend itself to the usual,
traditional, routinized patterns of coverage. For organizations geared
to covering planned and predictable events, disasters present a problem
of adjustment.

In this study, DRC was concerned with examining what alterations occur
in media organizations in their attempt to adapt to this changed
environment, and the social organizational consequences from the
inapplicability of their normal structure and news gathering
activities. In a basic sense, we worked with the very general
hypothesis that modifications had to take place in the operations of
the mass media organizations caught up in a community disaster.
Furthermore, we were also interested in seeing what problems for
organizational activities were inherent in these changes.

In addition, DRC had a research interest in examining the content or
output that results from these adaptations. Media scholars have often
debated the nature of the relationship of media content and society
(McQuail, 1984:134-126). Some have argued that media content shapes or
influences the social setting, others argue that the reverse pattern
dominates. Furthermore, representatives of the media, particularly
television, often propose a "mirror metaphor" and state that the

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content of news simply mirrors or reflects "reality" (Epstein, 1973; Tuchman, 1978). However, it is our assumption that the content of the media can only reflect the characteristics of the organization that produces it and the contextual environment and forces (such as disasters) acting upon that organization. Mass communication content is a collective product, produced by an organization through its normative, organizational and ideological structures and influenced by economic, technological, political and temporal forces. It reflects the internal and external environment of the organization and is not a simple mirror of "reality" or the product of individual action.

Therefore, although we will discuss organizational and content analyses somewhat separately in parts II and III, this is primarily for expositional purposes. We see them as inherently interrelated.

Chapter 3. Activities of Mass Media Organizations in Disasters

The analysis of mass media news gathering and news processing has been a small cottage industry for sociologists and others over the past two decades. Based upon the classical works of gatekeeping undertaken by White (1950), Breed (1955) and Gieber (1964), the research has focused upon the political, economical, temporal, and organizational factors that influence the production and distribution of news (e.g., Cohen and Young, 1973; Epstein, 1973; Sigelman, 1973; Altheide, 1976; Tuchman, 1978; Gans, 1979; Fishman, 1980). These types of studies show how intraorganizational structural patterns and interorganizational relationships influence news processing.

However, the focus of these studies have been exclusively upon the normal, day-to-day operations of television, radio and print media organizations. The routinized patterns of news production that exist during normal periods have been documented, and the influence of a known and stable environment upon these patterns has been noted. Much is known about these matters.

In contrast, there have been both the relatively and absolutely few studies of the organizational structure and news processing of mass media organizations during disasters and other mass crisis situations. A comprehensive 1980 National Academy of Sciences review of the state of knowledge regarding media response to disaster indicated that serious knowledge gaps existed and that nothing had been studied in depth (see the report, <u>Disasters and the Mass Media</u>). As part of our research project, DRC compiled an annotated bibliography of the social science literature on mass media and disasters (see <u>Mass Media and Disasters: Annotated Bibliography</u>, 3rd edition, 1988). This work includes annotations on 118 items. However, only about 20 of the research items focus upon the organizational structures and/or news processing of mass media outlets. Most of the rest of the material presents content analyses of disaster stories (e.g., Nimmo and Combs, 1985; Wilkins, 1987) or discussions of the efficacy of the media in distributing warning messages and general public information (e.g., Carter, 1980; Ledingham and Massel-Walters, 1984).

There is considerable variation in focus within this core group of twenty pieces of research. Some place most of their emphasis upon the effects of mass media organizational behavior on the response of the community to the disaster (e.g., Morentz, 1976; Singer and Green, 1978; and Rogers and Sood, 1981). Other studies focus primarily upon one type of disaster agent and its related problems. For example, Friedman (1981) and Rubin (1987a, 1987b) have examined accidents at fixed site nuclear power facilities and the interorganizational relationships between media organizations and governmental or nuclear experts. The great majority of this work has been done in North America (for Canadian research see e.g., Singer and Green, 1972; Scanlon and Hiscott, 1985; Scanlon, Alldred, Farrell and Prawzick, 1985; Scanlon and Alldred, 1987), but some studies have been undertaken in Japan (Hiroi, Mikami and Miyata, 1985).

Within the United States, the major studies of organizational issues about the mass media in disasters have been produced by DRC. An initial doctoral dissertation by Brooks (1970) has been followed by a number of organizational analyses (Waxman, 1973a, 1973b; Adams, 1974; Kueneman and Wright, 1976; Quarantelli, 1981; Green, 1983; and Friedman, 1987). Additional and non DRC studies in this area include the work of Harless and Rarick (1974), Sood (1982), and Sood, Stockdale and Rogers (1987).

This research literature provides the start of a good compendium of information on certain mass media activities during disaster conditions. But the research results are markedly uneven. There are a number of areas in which our knowledge is extremely limited. Comparative research is particularly rare. For example, no empirical studies exist that actually compare normal organizational patterns and processes of electronic and print media with those that can be observed during a disaster.

The DRC study attempts to fill this void. It is an empirical examination of news gathering and news processing of local radio, television and newspaper organizations during disasters. The prime focus of our field research was upon intraorganizational and interorganizational alterations in structure and news processing.
First, we will discuss our research findings relevant to nine intraorganizational and interorganizational dimensions. These dimensions include: 1) the gatekeeping process, the decision making process, 3) reporter autonomy, 4) the division of labor involved, 5) the influence of technology, 6) news sources, press conferences, press releases, and the normal infrastructure, 7) news competition, 8) contrasting roles of the various local media, and 9) the role of the media in the local community emergency response pattern. The discussion of these issues is based upon in depth case studies of 32 local television, radio and newspaper organizations.

Second, we discuss some of the major intraorganizational and interorganizational problems that were encountered by mass media organizations in attempting to cover the disaster in which they were involved.

Third, we present major findings from a survey of all local media outlets in the various communities that were studied. The purpose of this survey was to determine the extent of variation in media coverage by organizations under disaster conditions.

Finally, a series of general, summary themes regarding organizational response will be advanced.

A Brief Methodological Discussion

Before considering the conceptual framework and the empirical findings from the DRC research effort, we will discuss the research methodology

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that was utilized. Basically, we employed the same type of quick response, qualitative field research that has been utilized by DRC for over 25 years. This primarily involves intensive preplanning for a study, extensively training a team of researchers, getting into the field early, being on the scene during the emergency period, observing behavior, conducting open ended interviews, collecting documents, and analyzing all the data through a modified grounded theory methodology (see Quarantelli, 1987).

For purposes of analysis, we have combined data gathered during an earlier DRC study of mass media operations in disasters in Houston and Tulsa, with the material specifically collected during this research effort. This previous work of DRC was the result of a joint study with Japanese colleagues comparing mass media responses in Japan and in the United States (the results of this cross societal comparative study is to be published in Okabe and Quarantelli, forthcoming). In fact, the research with the Japanese actually provided the initial basis for the study we are reporting on here and so the data are quite compatible.

Data were gathered on the activities of mass media organizations during the following disasters:

    Houston, Texas - hurricane in 1983
    Tulsa, Oklahoma - flood in 1984
    Santa Rosa, California - flood in 1986
    Sweetwater, Texas - tornado in 1986
    Pittsburgh, Pennsylvania - flood in 1986
    Houston, Texas - hurricane in 1986
    Dayton, Ohio - toxic spill in 1986
    San Juan, Puerto Rico - hotel fire in 1986
    Gulfport, Mississippi - hurricane in 1986
    Covington, Kentucky - tornado in 1986
    Nanticoke, Pennsylvania - toxic fire in 1987
    Pittsburgh, Pennsylvania - toxic spill in 1987
    Minneapolis, Minnesota - tornado and flood in 1987
    Edmonton, Alberta - tornado in 1987
    West Memphis, Arkansas - tornado and flood in 1987
    Las Vegas, Nevada - plant explosion in 1988
    Springfield, Massachusetts - toxic fire in 1988

At these disaster sites, detailed and intensive mass media studies were undertaken in Houston (in both 1983 and 1986), Tulsa, Sweetwater, Dayton, San Juan, Nanticoke, Minneapolis, Edmonton, Las Vegas and Springfield. Extensive observations regarding media response were made in the remaining communities; but the focus of the field research in these sites was not primarily upon mass media response. So while relevant data from these other situations was examined, it was as supplementary material and used to further check or test what we were analyzing from our primary eleven community mass media data set.

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These sites present a wide variety in both types of disasters and the size of the local media market. Among the natural hazards examined were three hurricanes, five floods, and four tornadoes. In addition, the technological disasters studied included three fires, two toxic spills, and one explosion. The communities and their corresponding media markets range in size from millions of inhabitants to small towns of 20,000.

The initial trip made to each disaster community followed roughly the same pattern. DRC sent teams of trained researchers to the locality within hours of the event (or in the case of those disasters that allowed for a period of forewarning, they actually arrived before impact.) During this initial trip, a great deal of observational data concerning emergency activities were obtained. A number of in depth interviews were also conducted with mass media organizational personnel. In addition, we gathered disaster plans, after action reports, and other secondary type of organizational and community documents.

During this phase of the research, the primarily open ended interviews focused essentially upon disaster operations. The emphasis was placed upon obtaining a detailed description of the structure and activities of the local radio, television, and newspaper organizations during disaster. However, the interviews were also intended to gather data on such dimensions as the normal structure of the organization, news processing patterns, decision making and gatekeeping procedures, definitions of news, utilization of sources, resources for news gathering and processing, and the perceived role of the media in the community. The field team attempted to see if there were any changes in these normal patterns and the observed activities during the disaster. Furthermore, we collected information on the degree of previous disaster planning undertaken by the organization and any specific problems encountered in covering the disaster.

In the eleven communities that were the focus of our mass media studies, follow up trips were made to the sites approximately three months after the disaster. During the second trips, the focus was mostly upon normal operations, as well as specific differences between normal and disaster periods. Again, intensive interviewing was carried out. Observational data on normal operations was also gathered during the second trip. The use of the two trips allowed for systematic comparisons across time periods and the opportunity to "fill any holes" in the information gathered during the initial visit to the community. The interviews in both trips averaged about one hour in length, but many were considerably longer.

Within the eleven communities studied in depth a total of 312 contacts were made with mass media personnel. These contacts included a total of 286 unstructured, open end interviews with media representatives. These individuals were treated as informants, not respondents. In other words, they were asked to discuss of the activities of the organization, not to talk about their personal experiences, except as

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it involved organizational operations. Our informants came from all levels of the studied organizations. Within the television stations we researched, interviews were conducted with administrators, news directors, producers, assignment editors, reporters, photographers, anchors and operations personnel. Radio station interviews were held with administrators, news directors, anchors or disc jockeys, editors, reporters, and operations personnel. Interviews within newspapers were with publishers, managing editors, copy editors, metropolitan/ city editors, reporters, editors, and photographers.   In all cases, additional interviews were conducted with other involved personnel as dictated by the situation in the particular organization being studied.

In addition, in the eleven communities another 94 interviews were conducted over the telephone with single informants in different media outlets as part of a survey of all local media in the community. Excluded were operations such as most of the public educational stations that we knew ahead of time did not have any news reporting of any kind. In total, a total of 380 interviews were completed.

Information was gathered from a total of 97 radio stations, 44 television stations, and 20 newspapers, for a total of 161 mass media outlets. Many of these organizations were included in the survey, or were the object of interviews obtained as part of other concurrent DRC projects. However, thirty two were in depth case studies of the most involved local media organizations.

Upon returning from the field, the DRC research staff put together field reports on each trip.   These reports summarized the substantive data and noted pertinent findings, observations, and conclusions regarding the various mass media organizations. In addition, in depth case studies were constructed for eleven of the disaster communities. The case studies detailed the normal and the disaster structure and operations of the major radio, television and newspaper organizations. These case studies provide the major data base for the following discussion.

Case Studies of Local Media Outlets

As noted above, in-depth case studies were undertaken of the most involved local radio, television and newspaper organization in eleven disaster sites.   A total of 32 mass media organizations were studied. (One television station refused to cooperate after initially agreeing to do so). The sample is not representative of all outlets in the communities in which we conducted research, because in general the largest organizations and those most committed to news coverage were included. However, there is considerable variation in the size of these outlets. They range from a one person news department in a radio station and a four person newsroom in one local paper, to staffs numbering in the hundreds.

The focus of each case study was to examine any alterations that could occur in the intraorganizational and interorganizational structure of

media organizations during the emergency period of disasters. It is not possible in this report to discuss all the dimensions that are relevant to this issue (this is one of the matters that will be reported on later in a more specialized article). However, we focus upon the following nine dimensions that appear to be particularly significant and upon which we had existent knowledge from previous studies. Each dimension is briefly discussed, any pertinent research findings from the literature is noted, and the findings from the present study is discussed in light of the previous research. (Much of the initial analysis about these matters were done by Friedman (1987) in an M.A. thesis that involved a preliminary analysis of the data from six disasters.)

INTRAORGANIZATIONAL ISSUES

1. Gatekeeping Processes.

Gatekeeping positions refer to those work statuses or locations in media organizations who's incumbents can modify, alter or control the flow and construction of content in a significant way. Such positions include producers, editors, and reporters in news organizations (Gieber, 1964). Gatekeeping should not be viewed as the simple selection or rejection of available stories. It should more properly be seen as encompassing the activities by which news people, and others, transform any happening into a news event for the purpose of reporting it, and the ways in which a story gets formulated and presented (see Wright, 1985:73-84).

When the concept of gatekeeping was first being developed, it was clear that it was to refer to an organizational process, not an individual one. For instance, Gieber stated:

> The fate of the local news story is not determined by the needs of the audience or even by the values of the symbols it contains. The news story is controlled by the frame of reference created by the bureaucratic structure of which the communicator is a member. (1964:178)

In other words, the activities of the gatekeepers are more than individual; they are heavily influenced by the organizational setting and the policies of the organization.

During normal periods in both electronic and print media, the gate-keeping process involves a number of stages or steps in which incumbents in various positions manipulate and modify the content prior to its diffusion. For example, the flow of story construction in a moderate to large newsroom of a newspaper would involve such gate-keepers as reporters, assistant city editors, city editors, news editors, copy editors, and copy desk editors. Usually the story will pass through at least three and sometimes as many as six hands. Each gatekeeper may alter the nature of the content by editing, cutting,

placing, or writing a headline for the story. The content, therefore, is truly a collective product.

A similar, though generally not as complex, process operates in the newsrooms of television and radio stations. It involves reporters, photographers, editors, anchors, writers, assignment editors, producers and news directors. For example, in television a normal pattern is for a reporter and photographer to be assigned to a story by the assignment editor. Upon returning from the field, the taped footage is edited, and of the total amount of tape shot, generally only about five to ten percent is used in the final story. Similarly, the story line is written and then joined with the visual images. The completed package is often reviewed by a producer or news director prior to airing. Introductory or "voice-over" material is also prepared to be read by the anchor.

These are normal, day-to-day gatekeeping patterns. What changes can be observed to occur during disasters?

Waxman (1973b) examined the role of gatekeepers during normal and disaster periods. He argues that normally more information comes into a news department than can ever be disseminated on the air or in print. Hence, this surplus leads to a selective process; only a few items are ever actually distributed by a mass media organization. However, during disasters this usual condition is altered. Waxman proposes that during a major disaster there is actually a shortage of news and information flowing into the media system. In absolute terms, there may actually be many more news stories; nevertheless, there are also expanded newscasts and space devoted to the event. As a result there is a great deal of time or space to fill. Therefore "everything" related to the disaster is aired or printed. In addition, the news stories generally bypass many of the gatekeeping positions and activities and are therefore not as thoroughly processed.

Perhaps, most importantly, Waxman's (1973a) study indicated that the gatekeeping process is truncated during disasters, that the news processing is simplified, and that news information is distributed to the public without the usual editing and "quality-control" operations. Information received from the public and other sources is distributed in "raw" form in an attempt to fill the expanded time allotted for news. Steps or stages in the gatekeeping process are eliminated. This change in gatekeeping patterns appears to be an adaptation on the part of media organizations to meet demands for increased output of content in an altered environmental setting.

It should be observed that Waxman's findings were based upon a study of radio stations. More recently, Sood and his colleagues (1987) found a similar pattern of truncation. Studying a very limited number of media outlets in five disasters, these researchers concluded that a disaster results in a "situation of open gates, where the news flows resembles an inverted funnel" (1987:32). However, television and newspaper

outlets were not examined separately, and no distinction was made with regard to the differing experiences of print and electronic media.

To what extent do the DRC findings from the case studies support these previous observations regarding gatekeeping patterns?

Our data indicate that the previous findings of a _truncated_ gatekeeping process is only true for the electronic media. Within newspapers, the gatekeeping process often becomes _elaborated_ or more complex during disasters than during routine times. These contrasting patterns would appear to be the result of different technologies and time frames across media.

For example, within radio stations, the patterns noted by Waxman were replicated. In radio stations in both the larger and smaller markets, the usual steps of writing, editing and recording news stories were eliminated. With little time available to record stories or bring tapes back to the studio, there was a considerable increase in the amount of live coverage broadcast during the emergency. Information was broadcast without the normal news processing. Reporters, officials and citizens were often placed on the air "live" and their raw information was instantly distributed.

Television stations evidenced a similar pattern. Video tape was not edited as carefully as usual and significantly more live coverage was aired. One station we studied, for example, devoted hours to live coverage of a major toxic spill from its own helicopter. Raw tape brought to the station was aired in an unedited form. Another television station in the immediate aftermath of a tornado aired live footage being shot out of the station's back door, and then also placed raw tape taken by a citizen with a home videocamera on the air. In the smaller stations that lacked the capability for live coverage, raw tape and film was shown with accompanying unscripted, descriptive narrative.

However, a very different pattern prevailed in the eleven newspapers that we studied. The gatekeeping process became more elaborate as an additional step in the normal patterns was often added. The newspapers tended to designate "rewrite persons" as they attempted to cope with the disaster demands. This new gatekeeping position was filled by reporters were asked to remain in the newsroom. Reporters in the field would phone information to the "rewrite persons" who would take the information from a variety of reporters and construct the initial story. From there the story would usually pass through the normal gatekeeping patterns of the newspaper. In other words, a new gatekeeping position was created between the normal ones of reporter and editor. This pattern was found in both small and large newsrooms. In one four person newsroom, for example, the city editor became the "designated writer" who would receive all incoming information and write the stories. In those newsrooms with hundreds of staff personnel, multiple "rewrite persons" were used.

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In sum, the previous findings from the literature must be qualified for the proposition that gatekeeping is truncated during disasters is only true for the electronic media. Both electronic and print media face the similar problems of gathering and processing information in a dramatically altered and nonroutine environment. However, the time frames for their activities differ. The electronic media have the technological capability for immediacy of coverage; the print media generally do not. Because of the contrasting time frames, the former truncates the gatekeeping process, while the latter elaborates it. However, both of these alterations are in response to the same problem, i.e., collecting and processing news content in an altered environment.

2. Decision-Making Processes.

During normal operations, the formal division of labor and authority structure generally determine what positions are responsible for making final decisions regarding what content is distributed on the air or in print. The most broad and encompassing decisions are made at the highest levels of the organization, with middle level decision makers most directly influencing the actual news product. In this regard, mass media operations tend to be similar to other bureaucratic organizations.

For example, Epstein (1973) describes at length the work of producers at network news organizations:

> At each network, executives first determine how far the net
> will be cast for news - i.e., the cities in which news crews
> will be deployed, the number of correspondents, and the
> budget for relaying news from remote locations. Within these
> limits, assignment editors choose which of numerous
> possible stories to allocate to a limited number of network
> crews; and once at the scene, the news crew itself decides
> which aspects of the happening will be filmed. (1973:182)

This description of a linear, somewhat individualized process of decision making within network television news tends to also describe the usual patterns within local radio and television stations. Top management sets the broad parameters regarding budget, personnel, equipment, airtime, etc. within which the news department operates. However, they are very rarely involved in the actual operations of the newsroom. Within the newsroom the producer and/or news director are involved in daily construction of a coherent news program and in determining which stories to play. At many stations where both these individuals share this responsibility, they will often meet in a budget meeting hours before the newscast to discuss the lineup. Assignment editors decided which reporters and photographers should cover specific stories. Decisions on the actual content of the story and the visual footage that accompany it are initially made by the reporters and photographers, and then the material undergoes the normal gatekeeping processes of the organization.

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The print media have a somewhat similar structure. Publishers and executive editors generally set broad parameters, but do not become involved in daily activities of the newsroom. The actual amount of space that will be available for news, i.e., the size of the "news hole", is usually determined by the advertising department. After determining the space requirements for the advertising that is to be published, they inform the managing editor as to how many column inches are available for news on any given day. This "news hole" tends to vary from 40 percent to 60 percent of the total space in the newspaper. The managing editor usually hires the journalistic staff and "decides what the staff will do, which is the most important single step in the process of journalism." (Bagdikian, 1971:125). Desk editors make reporter assignments, and reporters are responsible for producing the first copy, which is then sent through the organizational gatekeeping process.

The major difference between electronic and print media appears to be the somewhat more collective nature of decision making within the latter. Newspapers hold a daily news budget meeting or "huddle". For morning papers, the meeting usually occurs about 4:30 in the afternoon prior to the production of the next morning's edition(s). At this meeting, the managing editor meets with the various desk editors (e.g. the city editor, sports editor, features editor, etc.) the wire service editor, and assistant editors and determines the makeup of the front page, and the general format of the paper given the size of the "news hole" available from the advertising department. In general, decision making in electronic media is less collective and more linear and individualistic in nature.

There are no in depth studies of decision making processes within mass media organizations during disasters. However, decision making within a variety of other local organizations during disasters has been examined. In general, it has been found that the rate of decision making and the number of decisions made at lower levels of the organization increase. There appears to be less consultation among organizational members. (Quarantelli and Dynes, 1977:24). In other words, there is a general tendency toward increasing decentralization in the decision making structure during disasters.

The disaster derived principle of group continuity (i.e., that patterns of organizational behavior during disasters are embedded within the context of previously existing normal, everyday activities and structures) indicates that the disaster decision making structure will not be radically or totally different from normal operations. However, the alterations in the environment and the stress placed upon media organizations almost insures that some alterations in decision-making will occur. A disaster context does make a difference.

The findings from our case studies indicate differences between the electronic and print media in the degree and nature of alterations that occur during disaster conditions in their normal decision making structures. Simply put, the degree of change was more extensive for

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radio and television stations than it was for newspapers, and within the electronic media decision making became more centralized and collective in nature.

Within the moderate and large television and radio stations, decision making became focused upon one group of individuals who took on primary responsibilities for overseeing all operations within the newsroom. For example, the decision making "group" within most television stations included the news director, executive producer and assignment editor, who huddled often together in their attempt to coordinate activities. The radio stations evidenced a similar pattern.

The decision making structure within the print media groups was generally less affected by the disaster. Most of the newspapers did not undergo the degree of change in decision making experienced by their electronic counterparts. Top level management did not become involved directly in the operations of the newsroom, normal news budget meetings were held, and normal work roles were maintained.

As will be discussed later, these differential patterns may be the result of the influences of time and technology. Newspaper organizations are usually not under pressure to produce a news product immediately, and hence they have time to allow normal decision making processes to run their normal course. It is interesting to note that in those few newspapers that did undergo tremendous stress and the pressure of time, e.g., those newspapers that experienced disasters after their normal news budget meetings, but prior to deadline for their next editions, those that lost production equipment, and those that issued special editions, tended to mirror their electronic neighbors in both the degree and nature of alterations in organizational decision making.

3. The Degree of Reporter Autonomy.

Related to the issue of decision making, is that of reporter autonomy within news organizations. In general, reporters view themselves and are viewed by the organizations for which they work as exercising autonomy in covering stories. In fact, autonomy is a prized characteristic of the job (see Wright, 1986:80).

However, sociological theory and research indicates that one would not expect reporters to have total independence. Media organizations, as all bureaucracies, necessarily require standardization. Therefore, the degree of freedom held by reporters to do whatever they want with a story is limited. Often, standardization is ensured through written guidelines and formal and informal socialization (see Breed, 1955; McQuail, 1969:65). In addition, social control is also exerted over reporters. This control occurs primarily through the system of rewards and punishments such as having stories published with minimal editing (see Donohew, 1967 and also McQuail, 1984:106-111).

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In addition to the socialization of organization employees, other factors work to limit their autonomy. For example, coming to depend on the use of traditional sources is one factor. Working on a beat system and concentrating on the use of officials and key sources, reporters have little input regarding whom they interview and what contacts they will use (Sigal, 1973). Furthermore, there is high priority placed on covering events that are predictable ahead of time (Epstein, 1973). As much as news organizations like to try to cover breaking news, most of the stories they report are planned events such as news conferences and scheduled meetings.

The only previous study of the degree of autonomy exercised by reporters during disasters did note that: "individual news personnel working in the field during disaster assume greater independence and autonomy from their hierarchical superiors" (Sood, Stockdale and Rogers, 1987: 30). This finding is consistent with certain expectations from the general literature on organizational activities during disaster (see Dynes, 1974; Drabek, 1986). With the disruption of normal mechanisms and channels for communication, (e.g., downed or clogged telephone lines, a shortage of radios, etc.) and the typical pattern of increased decentralization of activities at the level of operations, increased autonomy during disasters can be expected.

Data from our case studies indicate that reporters are given more autonomy during disasters. This observation is generally valid for all organizations regardless of type, and for all communities. However, as we have noted, reporters do tend to have some autonomy during normal periods. Therefore, during a disaster they are simply given more independence.

Reporters in the disaster situations we studied indicated that they were often given very limited guidance regarding what stories should be covered. They were sent to locations, such as neighborhoods, governmental offices, and institutions, and basically told to bring back a story. Once in the field, many experienced difficulty in contacting the newsroom for further guidance. In addition, those personnel in the newsroom often lost contact for hours with the reporters and knew neither their location nor the nature of the story they were filing.

The degree to which this pattern emerged appeared to be directly related to the magnitude of the disaster, the scope of impact, and the degree of disruption in normal communication lines. In those electronic outlets that do remote broadcasting and had adequate communication resources, greater contact with the newsroom and lower levels of reporter autonomy were observed. Also, when the disaster does not greatly disrupt the normal operations of the organization, there is more interaction between reporters and the newsroom. This pattern is especially true for newspapers, who in general manifest fewer alterations in their normal operations than do the electronic media.

In sum, our findings do support those of Sood and his colleagues (1987). Generally during disasters the rules for contacting the newsroom do seem to be relaxed somewhat. This condition may be a consequence of downed telephone lines, problems with radio equipment, or, in some cases there may not be time to reach the newsroom regularly for instructions or information regarding what is happening. However, it must be emphasized that given the normal degree of autonomy experienced by reporters, this represents only an alteration of degree, not in kind.

4. Alterations in the Division of Labor.

All media organizations are bureaucratically structured. While there are some variations in the structure of print and electronic media, there are strong similarities in their normal organization. Within print media, the highest position in the organization is usually held by the publisher. Beneath the publisher is an Executive Editor, who has overall authority for all news operations, including the editorial page. In addition, there are such departments as advertising (which handles both classified and display ads), production (which is responsible for printing the paper), and business (which handles personnel and budgeting). Furthermore, the news department is usually headed by a Managing Editor. Within that department, there are separate subdepartments of "desks" for metropolitan or city news, wire services, sports, business, features, etc. Editors at these various desks have assistant editors and a number of reporters assigned to their operation. Generally, reporters are further divided into "beat" reporters who cover specific types of activity (such as the police or "cop beat), "general assignment reporters" (who can be used on any type of story), and "specialized reporters" (such as science writers.)

Within electronic media, the station manager is subordinate to the owner, but exercises control over the various departments. These departments include engineering (which is responsible for the quality of the transmission), sales (the department which sells commercial spots), traffic (which schedules commercials and programming), business (which handles personnel and budget,) and programming (the department that produces both entertainment and news). Within most of the electronic media we studied, the news department is a part of the programming division, and the managing editor or executive producer is directly responsible to the program director. Within the newsroom there is the further division of labor between the news director, producer, assignment editor, editors, writers and their assistant. Anchors, reporters and photographers constitute the first line, operational level.

Within both of these types of organizations, the division of labor is specialized and the normal delegation of tasks is clear. Personnel from one department normally do not performed duties in other areas. People from non news divisions do not normally even step foot in the newsroom. Even within the newsroom the division of labor is clear, in

that feature writers, for example, almost never engage in covering breaking news stories.

What alterations, if any, can be expected to occur in the division of labor in these organizations during disaster? The disaster literature would indicate that the degree of change in the normal task structure is directly related to the degree of stress placed upon the organization (Dynes, 1974; Drabek, 1986). The degree of stress is a function of the magnitude of the demands made upon the organization in relationship to its ability to respond to those demands. Therefore, the degree of change in the division of labor should be a result of the magnitude of the disaster and the size and capability of the organization.

The findings from our case studies is that the greater alterations in the division of labor occur in those mass media organizations that experienced the most severe and disruptive disasters, and those that lacked resources to cover the event. Actually the most severe alterations tended to occur in the moderate sized news organizations. In these departments, the normal division of labor was often altered or changed. Top level management officials frequently came to the news-room and undertook operational tasks, including assignment and editing duties. Personnel from other departments were brought into the news-room and used to answer phones and other tasks. In addition, the normal division of labor among reporters on various desks and beats was somewhat altered. Feature writers and columnists were sent into the field on occasion to cover breaking stories. This pattern tended to emerge during the first few hours of the disaster, although through time the normal division of labor was reinstituted.

The level of alteration generally was less severe for the smaller and larger organizations. In the small radio stations and newspapers, workers often did engage in a variety of different tasks. However, the division of labor in these organizations is usually less specialized than that found in the larger units. Normally, on a day-to-day basis, personnel perform multiple tasks, such as being photographers, reporters, and editors. During a disaster this pattern was continued.

In the largest news organizations, less alteration in the division of labor was also observed. Possessing more extensive resources and a very specialized division of tasks, these units tended to utilize their everyday structure. For example, on large newspapers the disaster was often viewed as a "city desk story." The coverage of the event was limited to personnel from that department with minimal involvement from other divisions. However, in those instances where the disaster was of significant magnitude and the demands upon the organization were extreme, even the larger organizations manifested a blurring of normal tasks and the emergence of an altered division of labor.

5. The Role of Technology.

A central issue in mass communication studies concerns the degree to which technology influences mass media organizational structure, processes and content. Gans (1979) has argued that technological advances have very minimal effects on news content. He offers as an example that the novelty of color photographs in magazines and newspapers has worn off, and thus the influence of vivid pictures has not changed the content or print news.

On the other hand, there are those who take the position that technology does influence the structure and processes of all organizations generally (e.g. Perrow, 1967; Hage and Aiken, 1969) or mass media organizations in particular. Thus, for the latter, Wright states: "As we approach the twenty-first century, major developments in mass media technology are rapidly changing the mechanics of mass communication production, distribution, and reception" (1986:202). For instance, technological determinists would argue that the introduction of innovations, such as video cameras and satellites, would effect or change the content and news processing in television news organizations. In fact, McLuhan (1964) advanced the proposition that technology not only influences media content, but that it has a profound effect on all aspects of society.

For our analyses of mass media organizations, the critical distinction would appear to be between print and electronic technologies. The differences in these technologies would appear to influence the structure and news processing of media outlets. For example, the amount of time and personnel necessary to print a story are much greater than to broadcast one. For this reason newspaper outlets are unable to disseminate breaking news as rapidly as electronic organizations.

The disaster context would seem to allow for an examination of the impact of print and electronic technologies on news processing. Disasters bring about a need for continual and timely coverage. However, they result in a predominance of unscheduled events as opposed to the scheduled events of normal times. Hence, it could be hypothesized that emergencies test television and radio's technological capabilities to report live and instantaneously.

The findings from our case studies indicate that technology does have a significant influence on news processing and content. In almost every city, the radio and television stations experienced more alterations in their gatekeeping, decision making, and divisions of labor than did newspapers. (The only major exception to this pattern occurred in a community in which the local newspaper experienced extreme stress due to the timing of the event, the scope of its destruction, and the newspaper's own loss of production facilities.)

The capability to broadcast live reports is the key factor responsible for the impact of technology on news processing during disasters. This

capability forces the electronic media to preempt programming and/or advertisements, while newspapers have the capability to add additional space to the paper. The "good news" for electronic media is that their technology allows for immediate coverage. The "bad news" is that they must have something to broadcast immediately. This dilemma often requires an alteration in their normal structure and news processing. In general, under the influence of the slower print process, newspapers did not face these problems to as great a degree.

Technology also influences the nature of news content in disasters. Television and radio stations have the ability to broadcast information as it becomes available, while newspapers have the time to process the information and fill the story with background information. Furthermore, the nature of the technology prevents newspapers from supplying readers with breaking news and hence they tend to supply news which is less temporal but more in depth in nature.

INTERORGANIZATIONAL ISSUES

6. The Role of News Sources, Press Conferences and Press Releases.

There is a heavy reliance upon traditional, and often official, sources for news by all media organizations. The beat system, which is widely used in American society, is based on an assumption about what sources are most able to supply reporters with news. This system is rooted in the principle of locating reporters "where there is promise of maximal return in publishable news for their investment" (Roshco, 1975:72).

In her discussion of "news net or news blanket," Tuchman (1978) addresses at length the nature of the news net and what is missed or included in it. Her expansion of the image of a news net as opposed to a news blanket illustrates the idea that not all events are included in the system, and that some value decisions are made about what should and should not be included.

Similarly, on a daily basis, news operations receive a great many press releases and announcements. These are distributed to the media because the source is interested in having publicity or public attention paid to the issue (Boorstin, 1961). The media organizations generally decide whether or not they are interested in the event. Most are never used; however, they still account for about fifty percent of the articles printed. This type of scheduled news is easy to cover, primarily because it is usually predictable and timely (Tuchman, 1978).

The role of news sources has been examined by students of the relationship between mass media and disasters. Perhaps most prominent is the observation by Quarantelli (1981) on the existence of the "command post view." Essentially, Quarantelli argues that during disasters (and even more so during civil disturbances) the local American mass media tends to focus on emergency officials (generally located at the command post or emergency operations center) almost to the exclusion of any other sources. The result of the heavy reliance

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on these sources is the reporting of disaster events with a bias toward the view of emergency officials. The findings of Sood and his colleagues (1987:34) supports this position.

It has also been noted that media organizations utilize another source of information during disasters which is not traditionally employed. This source is the audience. Radio, in particular, uses the audience as a principle source of information. During emergencies, listeners call with information and questions regarding the emergency. The information supplied by the listeners is often disseminated directly over the air. Questions received by the station often serve the purpose of informing the station as to the type of information their listeners want and need (Waxman, 1973a).

Finally, we should note that there has been little systematic work involving the role of press conferences during disasters, aside from noting their widespread use. However, one might anticipate that under emergency conditions, when the media are in a situation where they "need" news and are less selective about what they will cover, the media would appear to play a more passive role, and would be anxious to obtain any available information distributed at press conferences and through press releases. Sood and his colleagues (1987:35) found that media representatives preferred to have an "information czar" who would centralize all information and distribute it to the media during disasters.

The data in our case studies indicate that there is a heavy reliance within all news organizations upon traditional sources of information. Therefore, the "command post view" would appear to be supported. Certainly in all communities, reporters were sent to the emergency operations center to gather information from "officials." However, we noted that many of these "officials" were traditional, daily "beat" sources for these reporters. Officials were a major source for "hard news" items.

However, the use of traditional sources was not limited to those in the command post. Beat reporters also relied upon their traditional news sources in such locations and areas as city hall, social welfare and health care agencies, and educational and scientific institutions. In effect, in the uncertain and altered environment of a disaster, there was still an attempt to normalize and routinize the coverage.

Nevertheless citizens were also heavily used as sources of news. However, the use of citizens tended to vary with the size of the organization, the nature of the media, and the scope of the disaster. The smaller organizations, lacking certain resources, relied more heavily upon citizens. Likewise, in areas where the nature of the disaster agent made travel and/or contact with officials difficult, citizens were relied upon for "news". Finally, radio stations were much more likely to utilize citizens than the other media. Often, statements and information from citizens would be aired immediately and/or callers to the station would be put on the air. Newspapers, and

especially television, were less likely to use citizens sources.

We also observed that citizens were used as sources in stories that were different in tone from those that used officials. Citizens were more likely to be utilized as sources for human interest and feature stories, than for breaking, hard-news items. This pattern was particularly true for newspapers and television.

We also noted that the role of press conferences and press releases is different during normal times and during disasters. Although our informants appeared to agree that the information provided by them was minimally useful, they seemed to be more valued by media personnel during disaster periods.

In a number of the communities we studied, local officials did not hold press conferences with great regularity and at times press conferences were delayed for hours. This practice became very bothersome to reporters, who felt much more dependent upon them for information than they normally were. Press conferences were viewed as important and helpful, since information was scarce and officials were sometimes hard to reach. Although our media informants recognized that press conferences reflect information that is given in a "controlled environment called by somebody for reasons of their own," they were still viewed as being worthwhile and necessary to fill the informational void that often occurs during a disaster. In addition, reporters are socialized to turn to "official" sources as one mechanism for protecting themselves from charges of bias, their organizations from legal or political harassment, and to lend to credence to their stories. Where press conferences were not held, the reporters were hampered in utilizing their normal procedures.

7. News Competition.

Media news organizations in the United States usually operate in competitive markets. While the existence of the wire services ensures that local media share information with nonlocal media subscribers in other settings, within the local community there is a strong norm of proprietary ownership of information and the production of "exclusive" stories that "scoop" the local competitors.

But do reporters actually share information with each other while in the field? To a large extent the answer to this question depends upon whom one asks. Editors and producers often state that reporters do not share information, or, if they do, producers and editors do not want to know about it. However, it has been noted by some researchers that media organizations are really more concerned with not getting scooped, rather than in scooping others (Scanlon, 1980). If this observation is correct, than one may assume that reporters share more information in the field than their superiors may expect. Simply put, it is a rather easy and effective way of avoiding "being scooped."

It is true, of course, that reporters tend to be overly protective of their sources and somewhat competitive with regard to their beats. However, reporters also have their own rules about what and with whom they will share information (Tuchman, 1978). With over half of all news items originating from press releases and conferences and many others from the news wire, it seems that a relatively small number come from exclusive sources.

However, Quarantelli (1981) notes that although reporters in disasters and civil disturbances converge at the emergency operations center or at the command post, not much sharing of information occurs. He suggests that the fact that reporters see one another at this central location acts as reaffirmation that they are at the right place, but this convergence does not necessarily lead to sharing information with others. He argues that reporters are very protective of their sources and their information during disasters, as well as during normal times. Sood and his colleagues, however, found that otherwise competitive news media cooperated with each other in the disasters they studied (1987:36).

In the eleven communities included in our case studies there was a significant increase in the sharing of information among reporters from different and competing news organizations in the field during disasters. The degree of sharing of information varied by the size and competitiveness of the local markets. In the smaller and less competitive communities, much information was shared. This situation, however, was not a marked departure from normal activities. For example, in one of the smallest markets we studied it is not unusual for the local radio station to call the newspaper with information and ask or request that they investigate the piece and find out some background information. This kind of cooperative relationship was accelerated during the emergency. Outlets in these small markets are so small that there was more than enough news for everyone. They had no qualms, due to a shortage of personnel or time, about giving leads to each other when they alone could not follow up on them.

In another one of the local markets in which we did research, there was also a noncompetitive orientation during normal periods. Most of the people who work in the mass media attended the same local university, therefore many of the reporters are friends. Moreover, there is considerable personnel turnover among organizations and many people in upper management positions know one another from previous jobs. During the disaster we studied, the news director at one station often exchanged information with a former co-worker who was a news director at another station. This information was then passed to reporters to pursue or was aired without additional verification.

This overt sharing of information was less obvious in the larger and more competitive markets. However it occurred at higher levels than during normal times. For example, in the very largest market in our sample, when there is a sharing of information during everyday operations, it is usually in exchange for another piece of information, or

for a ride in another's helicopter or plane. There are strong official organizational policies regarding this arrangement. During the disaster, the official policy did not change, but informally there was more sharing of information. Reporters in the field aided one another in this way.

We should note, however, that the greater sharing of information in all markets tended to occur among reporters from different types of media outlets, rather than among those from the same media type. In other words, newspaper reporters were more likely to share with radio personnel than they were with other newspaper reporters. This pattern was particularly pronounced where media cross ownership existed. In those few communities where the local print and electronic media were owned by the same corporation, the sharing of information was enhanced.

In sum, this pattern of sharing information is heightened in a collective attempt to make sense of the altered environment. The practice is generally hidden from higher management in the organization.

8. The Differential Role of Television, Radio and Newspapers.

Since its discovery and introduction to the pubic, radio has always had the capability to report news with immediacy. Television and especially newspapers, however, have had a relatively limited capability to perform in this same capacity. Because of their particular medium, the news produced by each tends to be somewhat different in nature. Television tends to favor stories that have good visuals, radio prefers items that are quick and fast, and newspapers, because of the factors of time and the nature of print, have tended to favor stories with depth and graphics. The result is not only different media portraying different types of stories, but also favoring different slants to their reports (see the different articles by Scanlon and his colleagues).

Public opinion polls reveal that television is the major source of news for most people in the United States. In 1985, when asked which medium they relied upon most as their major source for news, 65 percent of those replying named television. This statistic has increased consistently since 1959 (Witt, 1986:310). Television has replaced newspapers as the prime source of information to the public. On the average, news viewing increased from 20 minutes in 1965 to 27 minutes in 1975, while newspaper use had decreased from 33 minutes to 26 minutes (Jamieson and Campbell, 1983).

The value of such opinion polls have been questioned for a multitude of reasons (See Witt, 1986). However, for our purposes, the important point is that people do rely heavily upon television for news during normal times. The question we want to pose is, do they continue to rely upon it during disasters?

Data from the case studies indicate that newspapers compared with radio and television stations adopt different roles and cover different

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aspects of disasters. This differentiation or specialization of function appears to be an elaboration of the slight specialization which exists during normal times.

In general, the electronic media were the primary distributors of hard news items during the impact and early emergency periods. Where there was not a loss of electrical power, television played the primary role. On those occasions where power was lost, radio performed this function. Furthermore, there was a definite tendency for these "mass media" to become "personal media." In a number of radio stations, personal messages would be transmitted from listeners concerning their safety, the well being of others, and additional personal information.

Newspapers became more dominant during the post impact period. During this phase they provided background material and analytical coverage of the disaster. As opposed to the electronic media, they did not become involved in transmitting personal messages to their readers.

9. The Role of the Mass Media in Emergency Management.

A final critical issue concerns the perceived role of the mass media in the overall emergency response in the community. The issue is quite simple. There are inherently two conflicting roles that media organizations may perform during disasters. On the one hand, they may be part of the emergency response effort or system. In such cases they are responding with such organizations as local police and fire departments, emergency planning agencies, public works, utilities, welfare and social service groups, health and volunteer agencies. On the other hand, they may play the traditional media role as simple chroniclers of the event. In effect, the organizational work force are simply media personnel covering a story, and are not a part of the disaster response itself.

Local emergency officials sometime view mass media organizations as being one of the responding groups (see Wenger, Quarantelli and Dynes, 1988). In planning for overall community disaster response, they assume that the mass media can be an important conduit for distributing information that will be vital for citizens generally. Although realizing that the mass media cannot be totally controlled, local officials often believe that the media will be, or at least should be, somewhat at their disposal to aid emergency activities. If this role concept is not shared by local media representatives, however, the potential for interorganizational conflict is present.

What role did the local media organizations in our case studies assume with respect to the emergency management response in the community? In the 32 mass media organizations that we studied, the electronic media were more likely to see themselves as part of the emergency effort or response than were the print media. Informants from radio and television were both willing to accept a partial responsibility to serve as a communication link from emergency officials to the general population. They acknowledged that the nature of their technology allowed

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for the rather immediate transmission of emergency messages to citizens. Of course, some of this orientation is traditional within the electronic media, and is embedded in the Emergency Broadcast System.

However, the print representatives define their primary role as one of providing coverage of the event. They were more likely to offer that the disaster was "just another big story." Most were adamant that they "were not a part of anybody's team." Emergency management officials are not always sensitive to this differing role perceptions on the part of media organizations. Their planning and preparedness activities are not always cognizant of the somewhat differing role perceptions of the different media in the emergency response.

At this point, let us simply summarize our findings regarding the nine intraorganizational and interorganizational issues we have considered. Within the media organizations, the gatekeeping process tends to be truncated for the electronic media, but elaborated within newspapers. Decision making patterns are altered most extensively within the electronic media, as a pattern of collective decision making replaces the normal patterns of individualized, or linear coordination. Newspapers generally did not manifest this altered pattern, unless they experienced extreme stress. Reporter autonomy tended to increase in all media organizations; however this does not represent a dramatic shift in that reporters often have some autonomy during normal operations. The division of labor during disasters was particularly altered in moderate sized organizations and in those that underwent the most stress. Technological differences between electronic and print media appear to be critical factors influencing the degree of alteration in their intraorganizational structures at times of disaster.

With regard to external or interorganizational issues, DRC found that traditional sources continue to be utilized by all media organizations and there is some evidence for the "command post view" of disasters. However, citizens are also relied upon heavily by radio in providing information during the immediate post impact period, and other media for feature or human interest stories. Furthermore, press conferences assume a heightened importance and are more needed by media personnel during disasters. There is an increase in the sharing of information by reporters in the field during disaster periods, with this sharing being particularly pronounced in less competitive markets, where there is cross-ownership, and across different types of media organizations. The electronic media and the print media play different roles in the community during major disasters, with the former providing hard news items during impact times and the early emergency periods, and the latter offering analytical coverage later in the disaster experience. Finally, the electronic media are more likely than the print media to view themselves as part of the overall community emergency response pattern.

We now turn to a brief discussion of some of the major problems that were observed in these organizations in covering disasters.

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Chapter 4. Mass Media Problems in Covering Disasters

What were the major intraorganizational and interorganizational problems experienced by these organizations in covering local disasters? We found a number of them in the course of the analysis of the 32 major media organizations that were part of our case studies. These are now discussed. The presentation is not exhaustive in depicting all of the specific problems that occurred in all the organizations. However, it does represent a compendium of typical and common difficulties that were observed.

INTRAORGANIZATIONAL PROBLEMS

1. Coordinating Coverage Among Many Reporters in Diffuse Disasters.

As noted previously, the 32 organizations from which the case studies were derived were the largest and most committed news organizations in their areas. When their local communities experienced disaster, the mass media involved undertook a rather massive assault on the problems of covering the story. The larger newspapers had from 30 to 40 reporters in the field. The smaller outlets tended to send all available personnel to work on reporting the disaster. Similarly, the electronic media mobilized all their resources, sent all their reporters and film crews into the field, and some even utilized personnel from outside the newsroom.

This massive assault presented intraorganizational problems of coordinating the coverage of the event. This problem was especially severe in disasters that had a diffuse pattern of destruction. In the case of three of the tornadoes and the hurricanes, the damage was spread throughout the impacted community. In the minutes immediately after impact, there was great pressure to act quickly. However, there was also a lack of information within the newsroom on the actual magnitude of the event. Producers, news directors, assignment editors, managing editors and city editors often had to monitor police scanners and obtain information from citizen callers in order to have some idea of what was occurring. Without a clear picture of the extent and nature of the destruction, the magnitude of the response effort, and the general parameters of the story, it was very difficult to coordinate the coverage of the large number of reporters who were sent into the field.

As a result, personnel were often sent out with little guidance. Beat reporters tended to work their traditional beats to see if there was a traditional angle to the story. Some reporters were simply sent to certain geographical locations, as word of destruction at particular localities came into the newsroom. Others that went into the field were told to work the "shelter story" or the "fire story". Some workers from mass media organizations just went into the field on their own without direct assignment and gathered whatever information they could.

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This lack of coordination of field coverage not only presented problems of management within the newsroom, but it also influenced the content of what was produced. For example, in one community a tornado was in the vicinity for 45 minutes and inflicted massive damage over miles of territory. However, the most severe damage was inflicted at a mobile home park at the end of the twister's path. But the local newspaper sent most of its reporters to the sites initially damaged as the location of these became known through listening to the police scanner. By committing their resources to the initial, but least severely impacted areas, the coverage of the disaster was somewhat biased. For the rest of the world, the story of the tornado was one of death at the mobile home park. Within the local newspaper, however, more attention was paid to other areas of the community because of the initial assignment of reporters. Similar problems of coordinating coverage to encompass the entire span of a disastrous event were found in other mass media organizations in other cities.

2. A Surplus of Content and the Clogging of the Editing Process.

Because of their commitment of large numbers of reporters to cover the story, media organizations often faced an unforeseen problem. With a large number of reporters filing stories and supplying information to the newsroom, there tended to be a surplus of information. Editors were swamped with material and the editing process and copy desk were often overwhelmed.

This problem was most pronounced for the larger newspapers. Possessing many reporters, these organizations sent tens of people into the field. Being reporters, they filed copy with the newsroom. The positions of Assistant City Editors, City Editors, and the Copy desk that are normally used to construct stories with a much more limited staff and in a routinized time frame were overwhelmed by the flood of information. As a result, a considerable amount of information was not processed into stories prior to deadlines.

A number of newspapers attempted to solve this problem by altering their normal gatekeeping process. Rewrite persons were stationed within the newsroom to gather information from the reporters in the field. These individuals would collect the information from disparate reporters and combine it into a comprehensive story. Serving as a "filter" between the reporters and the normal editing staff, they limited somewhat the impact of informational convergence on the newsroom. In effect, they served as "writing editors" and performed gatekeeping functions. However, for those newspapers that normally operate on the principle of "one story, one writer" and stress byline credit, such an arrangement did engender unhappiness and hostility from reporters who were used to receiving individual credit for their own field work.

Similar problems were observed in some electronic media, but they generally were not as severe. In the television area, reporters and camera crews are very specialized. People were not brought in from

other departments and asked to construct stories. However, in the larger stations reporters and photographers did have to compete for air time. In radio, the convergence of information upon the newsroom was more likely to come from citizen sources who called the station with information. As we have previously noted, with the truncation of the gatekeeping process in these electronic outlets and the pressure to "go live," any information that was received tended to be rather quickly distributed. This practice tended to bypass the problems of informational convergence and clogging the editing process.

3. Expanded Work Schedules and Stress Upon the Staff.

In those disasters that extended over a number of days, such as a toxic spill that lasted for five days, and hurricanes and floods that had an extended period of forewarning and impact, work schedules of mass media personnel were expanded. This generated stress upon the staff of a number of mass media organizations. Fatigue and exhaustion of workers were a problem in many of the mass media groups. The problem was exacerbated because most of these organizations had not planned for disasters, and had made no provisions for the caring of their own personnel.

Of course, the expansion of work schedules is not unique to mass media organizations. It can be observed in many emergency response oriented agencies, police and fire departments, hospitals, and volunteer associations (Quarantelli, 1984; Wenger, Quarantelli and Dynes, 1988). However, many of these groups have double or triple shift work forces. This is not a typical job pattern among mass media organizations. Thus, not having foreseen the problem of expansion, many of these organizations had to develop ad hoc provisions for the relief and aid of their own exhausted personnel.

4. Confusion Resulting from Alterations in the Decision Making Process.

Previously we noted that the decision making structure of many of the media organizations, particularly the electronic media, were altered during the disaster period. Basically, decision making became more collective in nature within the newsroom. In addition, we also observed that high ranking administrators, such as station owners, managers, and publishers, often came to the newsroom to participate in the disaster coverage of their own organization.

For operational personnel and others, this condition often created confusion with regard to authority and decision making. Some reporters said that they did not know "who was in charge" back in the newsroom. One newsperson reported that the publisher was in the newsroom, and the reporter had never seen him there before. Normally operating under clearly delineated patterns of authority and decision making, this abrupt alteration in those patterns created problems of coordination and conflicting directives within a number of mass media organizations.

5. Loss of Control of Reporters in the Field.

Related to the pattern of increased autonomy for reporters, it was observed that often personnel in the newsroom lost all contact and control of reporters in the field. This problem was most pronounced for those units that lacked communication equipment that allowed for feedback. Reporters would be dispatched to locations, and then would not be heard from for hours. Editors and management personnel did not know the nature of the stories that were being obtained, nor were they able to gather important information from the field in order to plan their own patterns of coverage.

As a result of this condition, there was some overlap in the stories reported. Also, certain important aspects of the disaster were not covered, because assignment editors were not certain what was being worked on in the field. Once again, the severity of this problem of overlaps and gaps in story coverage appeared to be most pronounced in diffuse, damaging disasters.

6. Loss of Electrical Power and/or Printing Capability.

Most mass media organizations do not engage in any kind of disaster planning. Furthermore, when they do, they often ignore the possible direct impacts of a disaster agent upon their own facilities. A number of electronic outlets in the situations we studied were temporarily "knocked off the air" by the loss of electrical power. Usually this situation lasted for a few hours at most, but, coming in the immediate aftermath of the disaster, it could not have occurred at a worst time.

Print media also faced these problems. Increasingly newspapers are computerized operations. The disruption of electrical power seriously handicapped two of the newspapers we studied and they were not able to file and edit stories electronically. In addition, one newspaper had its production facilities made inoperable. Without prior planning, an ad hoc solution had to be developed. Charter jet planes were hired and the completed copy was flown over 200 miles to a paper owned by the same chain. It was printed at their facilities and then trucked back to the city for distribution. This solution was extremely costly to the newspaper. It was not only economically expensive, but also produced a crisis situation in the newsroom that influenced the size and content of the initial edition of the paper that first reported on the disaster.

7. Lack of Needed Equipment, Particularly Communication Equipment.

A lack of equipment was perceived to be a problem by a number of different local media organizations. Some of the smaller television stations and those in less competitive markets did not have the mobile units that would allow them to broadcast live from the field. They had to improvise "on air" without the visual footage that is the lifeblood of television journalism until taped footage could be brought from the field and broadcast (usually in an unedited form).

In addition, many of the local organizations complained about a lack of cellular phones, radios and other devices that would facilitate communication in the absence of normal landlines. Even when these devices were available, they were not always reliable. The cellular phones of one newspaper failed, for example, and that resulted in serious problems of communication between the disaster site and the newsroom.

8. A Lack of Quality Disaster Planning.

The general issue of disaster planning will be discussed when some findings from the general community survey are presented. But at this point let us simply note that many of the intraorganizational problems result from the lack of attention to emergency and disaster planning that is evident in most of the mass media organizations. The majority of these organizations had no disaster plans whatsoever. They had given no consideration to either the physical problems of being directly impacted by a disaster agent, or the difficulties of controlling and coordinating coverage of a major story in an altered physical and turbulent social environment.

Even in the minority of those outlets that had engaged in prior planning, it was generally of inadequate quality. Often plans only involved brief documents that specified systems of notifying and mobilizing personnel, how provision of aid and food were to be given to the working staff, and listed phone numbers of emergency relevant organizations. Furthermore, these plans were usually outdated, never exercised, and often could not be located by the staff.

There were occasional exceptions to this general pattern. For instance, excellent planning had been undertaken in one of the television stations. A general plan for hurricane coverage had been developed. Not only did it include provisions dealing with the problems noted above; it also incorporated a procedure for sectoring the coverage area and coordinating the activities of the various reporters. The plan was updated annually. It is not a coincidence that this television station had significant fewer of the intraorganizational problems that we have been discussing.

INTERORGANIZATIONAL PROBLEMS

9. Lack of Information About the Overall Impact of the Disaster.

Mass media organizations face the same problem in initially responding to the demands of a disaster that plagues all community organizations, i.e., a lack of information regarding the early damage assessment in the emergency period (Quarantelli, 1984). No local organizations has, as a part of its normal, day to day activities, the responsibility for monitoring the overall condition of the community. Thus, at the time of disaster, with the social and physical environment disrupted, with normal communication lines down or overloaded, and with many different

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organizations involved in emergency activities, the collection and codification of information about overall damages can be very problematical.

This situation created severe problems for mass media organizations, particularly in those disasters that inflicted broad, diffuse patterns of damage in their communities. Reporters found that their traditional sources were not of much assistance, because members of those organizations (e.g., police departments) also often lacked an overall picture of the occasion. Without this kind of information, it was very difficult for newsrooms to coordinate their news coverage.

The media organizations in the communities we studied tended to rely upon their own personnel in the field to supply them with information. Of course, this pattern is not a sharp departure from their usual operations. However, there were two problems with this attempted solution. First, the reporters in the field often had difficulty in gathering information from their traditional sources. Second, contact with the newsroom was often limited due to problems resulting from a lack of communication equipment, clogged telephone lines (which was a problem even in newsrooms that had established "hot lines"), and the altered division of labor (people did not know to whom to supply information). Therefore, needed information often was not forthcoming, even from the reporters in the field.

10. Denial of Access to the Impacted Area.

In a number of disasters, particularly focused events (such as toxic spills), reporters complained about the lack of easy access or entry into the damaged areas. Impacted areas would be cordoned by security personnel and access controls would be initiated. Even where pass systems were established, confusion was often evident in this task (as generally discussed in Wenger, Quarantelli and Dynes, 1988).

In many cases, "media tours" would be collectively given by emergency management officials for the reporters. This solution was only partially acceptable to the press people involved. While it somewhat provided equal treatment to all media personnel and allowed a reporter to "make sure that you are getting the same information as everybody else," it tended to conflict with journalistic values of freedom. While being sympathetic to the needs of security personnel, reporters complained of being "blacked out." Conflict between media and security personnel over this issue arose at a number of impacted sites.

11. Limited Access to Emergency Managers.

Reporters noted that the denial of access to the damaged areas might have been more acceptable if local emergency officials had been readily available as an alternative source of information. However, many reporters claimed that there was often no easy access to key officials. It should be observed that these reporters desired direct access to the decision makers and officials who were responding to the event. They

perceived that decisions were being made "behind closed doors," and expressed skepticism regarding the motives of officials. Conversely, many emergency officials believe that the media often "get in the way" of emergency activities (Wenger, Quarantelli and Dynes, 1988). They prefer to isolate their emergency management activities from outside "disruptions" of all types, including the actions of reporters.

This interorganizational conflict is frequently exacerbated from the perspective of media personnel, because they often have direct access to many of these traditional sources during normal periods. In fact, they are often "courted" by various governmental and private officials in search of mass media coverage. The rather abrupt change in the nature of the relationship during disaster conditions is particularly problematical to reporters who are under great pressure to gather information in an altered environment. When their traditional sources are not available, they must improvise; a solution that is usually more difficult than utilizing routine, daily patterns.

12.   Lack of Public Information Officers(PIOs) and Scheduled and Recurrent Press Briefings.

Compounding the problems of a lack of access to damaged areas and officials, was the often expressed complaint by reporters about the lack of trained Public Information Officers for the emergency management system and the paucity of press conferences and briefings. While praise was given at a number of disasters for the activities of PIOs, many reporters often expressed dismay at the lack of expertise and sensitivity of PIOs to the needs of mass media personnel. Often work space for reporters was not provided at the Emergency Operations Center. Access to phone lines was not made available. Information was often seen as being inadequate or not consistent. Some concern was also expressed that PIOs did not always have the necessary authority to answer questions.

As we noted in a prior section of this report, press conferences take on an added importance during disasters. They are desired, needed, and sought after by reporters in the field. Not only do reporters want press conferences to be regularly held, but they want the briefings to be scheduled around the time constraints of their own deadlines and to be held on time.

Sood and his colleagues (1987) had found that reporters tend to want an "information czar" during disasters. For one, this makes their job much easier, for it eliminates the problems of "digging for information." Furthermore, it allows them to normalize their coverage to the usual day to day patterns of news gathering. In addition, it also is one way of handling the following perceived problem.

13. Difficulties in Verifying Information.

Within the norms of journalism in the United States and Canada at least, objectivity is a strategic, ritual device that is utilized by

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reporters to protect themselves from charges of bias (Tuchman, 1978). One way in which objectivity becomes operationalized is to reference, cite or quote official sources for the information that the reporter has gathered. In their training, journalists are constantly reminded to "cover your facts," to verify accounts and statistics, and thereby protect both themselves and their news organization.

Many reporters complained about the problems of verifying information during the emergency period of disasters. The initial period of a lack of information during disasters is usually and soon replaced by a surplus of accounts, statistics, and reports. These come from citizens, on-scene observers, and a variety of formal and informal organizations. For reporters, the problem is one of getting an "official" to acknowledge that certain, specific items of information are accurate. Given that information tends not to be centralized in any specific location, and that reporters perceive that they are denied access to "official verifiers," this situation creates problems for media personnel who are used to operating in an controlled environment of traditional sources.

14. Conflict Regarding the Emergency Response Role of the Media.

We previously discussed the important issue of the role of the mass media in the emergency response system. In concrete terms, for some representatives of the local media in the organizations we studied, the relationship was viewed as problematical. They perceived that local emergency management officials wanted to "use them" as a part of the local formal response effort. They were asked to disseminate public information statements, release official announcements, and, at times, withhold certain information.

It must be emphasized that many media personnel readily complied with these requests. In particular, representatives of the electronic media saw such activities as being a part of their responsibilities to their own community. Furthermore, given the nature of their technology, they stated that they had an important role to play in reaching large numbers of the citizenry with official information in rapid time.

However, other mass media personnel, particularly representatives of the print media, did not see themselves as part of the emergency response system. They continued to view themselves as members of the "fifth estate" and argued that their appropriate role was that of a an observant, chronicler of the events surrounding the disaster. Furthermore, these mass media informants were often critical of the lack of access to emergency management decision makers, and, felt that the request to "be a part of the team" was somewhat hypocritical.

This situation is an essential example of conflict in work role expectations. When two parties in any relationship enter into interaction with contrasting, and conflicting, views regarding the nature of that relationship, conflict is somewhat inevitable. The

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relationships between mass media and emergency response personnel in these settings can be described as "strained" at best.

15. Conflict with Outside Media.

One aspect of emergency planning that is often overlooked on the part of mass media organizations is the relationship with outside media who come to the disaster scene. The relationships can be both of a vertical (up and down to other organizations) and horizontal (across to other organizations) nature. The problems are generally least severe for the print media. In most instances, the major vertical linkages are in providing copy for wire services. Given that this relationship is a part of normal operations, relatively few problems in disasters are encountered. The horizontal print relationships involve the convergence upon the disaster site of representatives from nonlocal newspapers. These "outsiders" tend to make few direct demands upon the local newspapers. Normally, they neither require space in the newsroom nor logistical support. The major problem of outsiders is one of access to community officials and competition for attention at press briefings.

For the electronic media, these relationships are often more problematical. Vertically, the relationships involve network affiliation. For radio, the problem is one of supplying reports to the network. Once again, this presents few problems and actually serves to enhance the prestige of the local outlets. For television, however, the problems are somewhat more severe. Network film crews and reporters often need local resources, such as work space in the newsroom, editing bays, and network linkages. This outside convergence, of course, occurs at a time when the local station is already stretching its resources to the limit. Although overt expressions of hostility toward outsiders generally is muted, local television personnel did express some hostility to the invasion of network personnel. Horizontally, the relationships with outside electronic media were less problematical. Generally, they involved competition for sources and access to information.

It must be emphasized that all of the local outlets were quite friendly to their outside brethren. Cooperation was the norm, with reciprocity being the underlying promise. However, the local mass media organizations, already under stress and utilizing their resources to their fullest capacities, did indicate that they had some difficulties in their relationships with these outside representatives. The latent uneasiness seldom became overtly manifest at the time of the disasters we studied, although open clashes between local and outside mass media personnel have occurred in other crisis situations (see Quarantelli, 1988).

16. Lack of Planning and Preparedness for Interorganizational Relationships.

Many of the difficulties described above stem from a total lack of

disaster planning on the part of mass media organizations for interorganizational relationships, both with local emergency management agencies and outside mass media representatives. Even where some disaster planning had occurred, it ignored these critical external linkages.

Within the local community, the inclusion of mass media personnel in the development of community wide disaster plans essentially was nonexistent in the localities we studied. Part of the responsibility for this difficulty resides with local emergency management officials, and not solely with the media. While local emergency preparedness officers may view the media as being part of the response team, they generally do not specifically include their needs in their own agency plans, and they are rarely included in any exercises of those plans. (The local mass media organizations will often "cover" local disaster exercises and drills as a news story, but they generally do not participate as part of the response effort or team in the drills.) Furthermore, local mass media organizations do not consider the needs of emergency management officials in their planning. What limited planning they do is based upon the notion of simply maintaining their autonomy and covering a "big" story.

Similarly, local mass media organizations do not plan for the convergence of outside media representatives. The designation of liaison personnel, allocation of work space, and anticipation of the needs of these outside units is rarely undertaken.

In sum, we have discussed a few of the major problems encountered by local mass media organizations in responding to disasters. It should be noted that many of these difficulties could be surmounted or at least alleviated by improved planning on the part of local organizations. One of the primary difficulties in mass media coverage of disasters is that local media outlets attempt to report on the event as if it was simply "another big story." They do not consider the implications of the radically altered, qualitatively differentiated, external environment brought about by major disasters.

Chapter 5. Some Findings From the Survey.

In addition to developing case studies of 32 major local mass media organizations, DRC also undertook a survey of other local mass media outlets during disaster. Information was gathered on 80 radio stations, 30 television stations, and five newspapers. This information was obtained through telephone interviews with individual informants at each organization. In this summary volume, we are only going to highlight a few major themes from the survey research findings with the greater detail being reserved to be presented later in more specialized reports.

1. Local mass media outlets vary considerably in their involvement in disaster coverage, i.e., there is no one, uniform, massive across the board pattern of coverage.

Coverage of the disaster was extensive by all of the newspapers and most of the television stations. All of the newspapers added open pages and three published special editions. Among television stations, coverage also was rather extensive, as 27 of the 30 local stations covered the disaster. (Two did not cover the event and one was "knocked-off the air"). Furthermore, 83.3 percent of the stations preempted regular programming and 96.4 percent increased their time devoted to news during the disaster period. These observations of massive coverage occurred in all communities, regardless of the nature of the disaster or the size of the local media market.

However, patterns of radio coverage were much more varied. (Although information was gathered on 80 stations, we are limiting our analysis to 59 stations that were not "twins," i.e., owned by the same larger organization and presenting similar programming.) A total of 18.6 percent of the radio stations did not cover the disaster in their community at all. Three of these were small stations with no news department; they continued with their normal programming. The remaining eight stations were off the air. Among the remaining stations who did present news coverage of the disaster, significant variation were observed in the pattern and depth of their treatment. Thirty percent of the stations who covered the disaster in their area never preempted local programming, and 28.3 percent did not increase their normal time allocated for news.

In sum, although a local disaster obviously is an important news story that is covered by a majority of radio, television and newspaper organizations in a community, the magnitude of the coverage is likely to be considerably less for radio.

2. For the electronic media, the size of the organization is important in influencing its degree of coverage and the amount of change that occurs in its normal structure.

There was great variation in the size of the news departments in the 115 mass media organizations we studied. THree of the radio stations

and one television station had no news department. At the other extreme, the newsrooms in some newspapers and large television stations had over 100 employees.

In our analysis all radio and television stations were classified as either small, medium, or large depending upon the size of their news departments. (All of the newspapers in the sample were large.) For the radio stations, the greatest alteration in structure occurred for the medium sized stations, while both the small and large stations were more likely to normalize their coverage. In other words, the relation-ship between size and alteration in structure during disasters was curvilinear. For example, of the 32 small stations, only 58 percent preempted programming, as compared to 83 percent of the seven large stations and 100 percent of the 12 medium stations. Similarly, only 57 percent of the small stations increased their news output, while all of the medium and large stations did so. Furthermore, only 45 percent of the small outlets and 50 percent of the large stations increased their news staff in order to cover the disaster, while 91 percent of the medium stations experienced an increase in staff. Finally, only 41 percent of the small stations and 50 percent of the large ones actually sent reporters into the field to report on the event, while 91 percent of the medium outlets did sent personnel to sites outside of the newsroom.

These patterns are understandable in light of the personnel and resources controlled by these different organizations. The small stations generally lack a commitment to news. Lacking extensive personnel and resources, at the time of disaster they continue to take a passive approach to news programming. Many of these outlets are classic "rip and read" stations, i.e., they take material from the wire services or local newspapers and distribute it directly over the air.

Conversely, the large stations do possess adequate resources and personnel to cover a major breaking story. They are oriented toward news and provide more extensive air time during normal periods to its distribution. These resources and commitment allow for the larger stations to also "normalize" the process.

It is within the medium outlets that we see the greatest change in personnel and time devoted to news. These organizations appear to experience considerable stress as they attempt to provide more expanded coverage and match the larger, more news oriented stations in their markets. Greater alterations occur in their normal divisions of labor and decision making structures as personnel are brought from other divisions in the organization to bolster the staff of the newsroom.

The effect of size upon television stations is less pronounced. However, the smaller stations in our study had a significantly lower amount of disaster coverage and concomitantly fewer changes in their normal structure and news processing. For example, while all but one of the 28 stations for which we have data increased their time devoted to news, only 50 percent of the small stations preempted regular

programming, while 100 percent of the medium and 93 percent of the large stations did so. Only 25 percent of the small stations increased personnel, while 97 percent of the larger outlets added staff to their news coverage. Similarly, only 38 percent of the small stations actually sent reporters and camera crews into the field, while all of the medium sized and 88 percent of the large stations allocated field personnel. In addition, the work schedule was altered in only 50 percent of the small stations, but was changed as shifts were extended in all of the medium and large outlets. In sum, lacking extensive equipment and resources, the small stations did not attempt to compete with their larger competitors in coverage of the event. In the few small outlets that did attempt expanded coverage, considerable stress was observed and corresponding alterations in their intraorganizational structures were found.

3. The Print Media Undergo Fewer Alterations in Normal News Structure and Processing than the Electronic Media.

Perhaps as a result of a technology that does not allow for the kind of rapid dissemination of information that can be provided by the electronic media, newspapers appear to undergo fewer changes in personnel, work schedules, divisions of labor, and news processing activities. Certainly the degrees of change observed in radio and television stations were not apparent in the newspapers. However, as was noted in the discussion of the case study material, under certain conditions the newspapers may undergo significant alterations. Specifically, when the print media lose production facilities, electrical power, or the ability to communicate with field reporters, and when the disaster occurs after their daily budget meeting, but prior to deadline, the stress upon these organizations increases. Under these conditions, the newspapers resemble the electronic media in the magnitude of alterations in their operations. But on the whole, print media change less than the electronic media in handling disaster news.

4. The Level of Disaster Planning Among Mass Media Organizations is Limited, the Quality of that Planning is Generally Poor, and the Actual Implementation of that Planning at the Time of a Disaster is Rare.

We previously noted that the level of disaster planning among the 32 media organizations in our case studies was poor. It must be remembered that these 32 organizations were the largest and most heavily "news-oriented" outlets in this study. They were not a sample or representative of all local mass media organizations as such.

However, when we examined the level of planning by the other local mass media outlets, it is obvious that disaster planning did not receive much attention anywhere. Among the 59 radio stations in our survey, only 20 or 33.8 percent, had disaster plans. For the other media, the figures were somewhat higher, but still do not indicate a great sensitivity to disaster planning. Fifteen of the 28 television stations, 53.6 percent, and three of the five newspapers, 60 percent, had plans.

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However, with a few notable exceptions, the quality of this limited planning was quite low. The plan documents were often vague, general statements regarding the mobilization of personnel. Most ignored the problems that could result if the station or newspaper were directly impacted by the disaster agent. Few considered the serious problems of coordinating coverage of a major story in an altered environment. Almost none of the plans incorporated interorganizational linkages into their planning, except to list phone numbers of some official sources. Furthermore, little recognition was given to the role of the media in the community's emergency response system. Also, what typically existed was a notable example of "product oriented" planning. In other words, a document had been created, but planning was not viewed as an on going process; a major flaw according to most disaster research (Quarantelli, 1984). Finally, the plans had not been exercised and were rarely updated.

Perhaps the quality of these plans is indicated by the fact that while 38 plans existed in these media organizations, only 14 or 36.8 percent of them, were actually utilized during the disasters we studied. In fact, many could not be located by mass media personnel even a number of weeks after the events during DRC follow up field studies.

Chapter 6. Major Summary Themes Regarding Mass Media Organizational Response

Our discussion of the organizational analysis we undertook will be concluded by the presentation of a number of general themes that were inductively developed from both the case study and survey data. These themes delineate significant general patterns of an overall nature than the more specific findings discussed earlier.

1. Significant Differences Exist Between the Print and the Electronic Media in Their Patterns of Operations in Covering Disasters.

Simply stated, the print media made significantly fewer changes in their organizational structures, divisions of labor, gatekeeping patterns, decision making arrangements and utilization of sources than did the electronic media. Newspapers were more likely to normalize their news production activities, while radio and television stations were more likely to adopt new, emergent and/or altered arrangements. Within the electronic media, gatekeeping was more likely to be truncated, decision making became more collective in nature, and citizens became more prominent as news sources. Within some electronic outlets, the essential orientation of the media changed, as they moved from being vehicles of mass communication to channels for the distribution of interpersonal messages. (This pattern was first observed by Singer and Green, 1972, and was also found by Sood and his colleagues, 1987.

As will be noted shortly, these differences appear to be a result of the influence of time and technology upon organizational activities.

2. Problems in the Coverage of Disasters Appear to be More Severe for the Electronic Media Than for Their Print Counterparts.

The technology of radio and television allows the opportunity for immediate and simultaneous coverage of a disaster. As noted previously, that potential represents the "good news" for electronic journalists. The "bad news" is that some content, some news product, must be rapidly constructed to fill the time. We observed a number of changes that happened in the structure and news processing of electronic outlets that appeared to fill this increased demand for news.

For example, it is evident that the gatekeeping patterns are significantly altered. The story construction process is truncated and shortened. In the case of radio, information received from the public is often disseminated without the usual editing and verification procedures. To a much great extent than during normal periods, raw information flowing into the organization soon flows out without having undergone the usual processing.

This lack of "quality control" over the product can influence a community's perception of and response to the disaster. The problem is not so much that inaccurate or misleading information may be distributed.

(However, the distribution of such information obviously may be a problem.) However, what is most critical is that the lack of normal news processing can facilitate the perception of confusion and disorganization within the local community and engender rumor transmission. Even if the information that is distributed is accurate, its presentation in a nontraditional format may lead to these dysfunctional results.

For example, initially in the emergency period a number of different organizations may make requests for assistance and equipment. The media often rely such requests to the public and sometimes disseminate "blanket calls" for any type of aid the audience may provide. This action may precipitate the "convergence problem" upon the disaster site. In a number of instances in the case we studied, on air personnel in radio and television stations issued requests for assistance, suggested that volunteers and organizational personnel all report to work, and indicated that almost any type of aid would be beneficial in the community crisis. These requests were often made independently from that of any other local emergency response organization. As the flood of food, clothing, and volunteers converged upon the disaster site in amounts far in excess of needs, the media were then frequently asked to cease issuing such requests. In these instances, the information that flowed through the mass media system defined the response for the audience in less than effective ways.

3. **Dialectical Changes in Decision Making Occur in Those Media Organizations that Undergo Stress.**

We were able to observe changes in decision making within the organizations that underwent stress, i.e., they were faced with the demands of covering events that exceeded their normal capacity to respond. The patterns of change were more pronounced for the electronic media, but they could also be observed under certain conditions in newspapers. A discernable pattern involved the dialectical processes of increased centralization within the newsroom and increased autonomy in the field. Both the former and latter patterns are a result of organizational adaptations to an altered environment and increased demands upon the news organizations.

The former pattern of increased centralization within the newsroom is a response to an increased need for the coordination of reporters' efforts in the coverage of a disaster. Normally, only one, or at most two, reporters work on a story at the same time. Problems of allocation of personnel, duplication of story lines, and coordination of activities are almost nonexistent. On "big" stories, such as the visit of a dignitary to the community, the local election, or a major celebration, more staff may be assigned to cover the event. However, these types of stories are almost always of planned and predictable and predictable occasions. Therefore, planning can be undertaken before the event to guarantee coordinated coverage.

Disasters, however, present a more difficult and serious problem. The entire staff of the news department may be "working on the same story." Greater centralization and coordination in the newsroom is required, otherwise the editor's nightmare of 16 reporters filing stories on life in a public shelter may become a reality. This attempt to have increased centralization was observed in most of the mass media organizations that were a part of our study.

Simultaneously, however, the latter pattern of increased autonomy for reporters in the field could also be observed. This pattern resulted from the unknown nature of the physical and social environment in the aftermath of disaster. While the newsroom may assign reporters to certain locales or to cover certain activities or institutions, there is a considerable lack of information about the actual condition of the community. Therefore, reporters are generally given more freedom than they usually have even in everyday activities.

But this increasing presents some major problems. Reporters often lack information about the general or overall nature of the disaster. They do not receive adequate information from the newsroom that will allow them to place their stories and experiences within a broader, community wide context and thereby integrate their stories with other reporters covering the same event.

While some of this difficulty may have been the result of technological problems and an inability to communicate, it is also evident that it as a result of the continuation of normal day to day patterns of activity during the emergency period. Reporters are used to providing information to the newsroom where it is processed into stories; they are not used to receiving and requesting information at the same time. The usual pattern of information flow is primarily one way in these organizations. This pattern can be detrimental in disaster coverage, particularly where the scope of impact is diffuse. In such kinds of disasters, the coordination of coverage among many reporters and the provision of needed information to them becomes problematical.

4.   The "Command Post View" of Disasters is Prevalent, Though Its Generality Must Be Qualified.

Prior studies from the disaster literature had led us to expect that the media would evidence a "command post view" of disasters. Our findings indicate that this observation is generally correct. Certainly emergency officials can and do provide a ready source of information for those mass media organizations that are searching for information under stressful conditions and with expanded space and time for news. Television stations particularly appear to place a rather heavy reliance upon official sources.

However, the generality of the "command post view" must be qualified somewhat. Radio stations appeared to increase their use of public or citizen sources in an attempt to fill their expanded news time. Particularly in news/talk outlets, citizen input was openly sought and

often aired with little of the normal gatekeeping activities taking place. Generally television ignored this possible citizen input. Newspapers primarily relied upon citizens for sources for feature stories and human interest copy. Therefore, although the views of officials is certainly strongly represented by local media organizations, at least radio and newspapers also tend to present citizen generated content.

5. **Local Mass Media Continue a Heavy Reliance Upon Traditional Sources of News During the Emergency Period of Disasters.**

We should first note that during a disaster, certain traditional sources of news are ignored, such as wire services, press releases, and syndicated services. This is because of the simple reason that their content is not perceived to be relevant to the local coverage of the disaster story in the community. However, there appears to be a reliance upon other normal, traditional sources that may have informational payoff for the coverage.

As we previously discussed, all media organizations rely upon traditional sources that are nurtured through the "beat" system. When information is at a premium under the stress of covering a disaster, the traditional sources continue to be utilized. In fact, many reporters in these organizations turned first to their normal news sources They worked their beats. For those who were able to maintain contact, the story was often composed from the perspective of their usual sources. However, as we earlier noted, reporters often complained that they were denied access to officials. In these instances, reporters had to improvise and seek alternatives. Interestingly, even some radio stations had a heavy reliance upon citizens as news sources (e.g., for news/talk stations, the public is often defined as a source for content). These radio stations continued that traditional pattern of relying upon citizens in their disaster coverage.

One result of a reliance upon traditional sources, of course, is that the activities of nontraditional sources "slip through the news net." In other words, the activities of volunteers, emergent groups (for their importance in disasters see Quarantelli, 1984) and organizations that are not a part of the normal "beat" system or regularly courted for news tend to be ignored in mass media accounts of disaster. A somewhat distorted image of the disaster can be created by this practice. Because the activities of emergent groups and volunteers are often not depicted because they are not part of the traditional news net, the image that is created in media content is that emergency response is primarily an activity of formal, traditional organizations.

6. **"Hard News" Items Dominate Electronic Media Coverage of Disasters.**

For all of the electronic media, "hard news" items dominated their coverage of the disaster. (By "hard news" we are referring to reports that are descriptions of disaster conditions, official and unofficial

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announcements, and items that describe events occurring at or around the time of distribution. "Soft news" refers to analytical and feature stories concerning such issues as planning, causality, blame, and human response to the disaster.) For some outlets, this stress on "hard news" was a simple extension of their normal definition and preference for news. However, in other stations, this preference represented a shift from a more "feature" oriented content.

It could be argued that this emphasis on "hard news" represents the effect of journalistic values and ethics that stress presenting factual, informative content of immediate import during disaster. The argument may have some validity. However, it must be noted that the presentation of "hard news" is also a quick and easy solution to the problem of immediately filling expanded news time. Analytical and feature stories require a longer time to construct. In general, they require some research and consultation with a variety of sources. Their structure is not consistent with organizational demands of rapid, intense coverage under stressful conditions. In the instance of disasters there appears to be a fortuitous convergence of journalistic values, the nature of "hard news stories," and the organizational needs of the media outlet.

7. Time and Technology are Important Elements in Media Coverage.

With regard to time, two issues appear to be important. First, one must consider the amount of warning that is associated with the impact of the disaster agent. Where warning was possible, such as in instances of hurricanes, fewer alterations and problems of coverage could be observed in those organizations that utilized the warning period to plan and coordinate their response.

Second, the actual time of the impact is also critical. If the event occurs near to air time or press deadlines, if the disaster happens after the budget meetings, or if the event takes place when most staff members are not on duty, the problems of coverage are much more significant. Perhaps the worst time of day to have a disaster for the mass media is late in the afternoon for both electronic outlets and morning newspapers. Traditionally oriented to the dinner hour newscast and the 4:40 pm huddle, an unexpected event at this time can be very stressful and require considerable alteration in structure and operations within a short period of time. Disasters that tend to occur at the normal time for press conferences, such as 10:30 am, appear to present fewer problems. This general pattern illustrates the importance of looking at social time as well as chronological time in the study of disasters.

As we have noted, technology is important in determining the role various media play during disaster, the amount of change that they experience in their normal structure and news processing, and the number of problems they experience in their coverage. In general, newspapers did not undergo the changes and problems experienced by the electronic media. While this finding may indicate the influence of

print technology which does not facilitate immediacy of coverage, it must be emphasized that technology is not totally determinate. A few newspapers did undergo extensive changes and experience significant problems. These conditions seemed to occur when the disaster struck after the daily budget meeting and before press time. Suddenly, these newspapers were faced with the stress of altering their already planned content, reorganizing and restaffing their coverage, and coordinating reporting on a major story that could not be ignored. Under these conditions they faced the stress of time, and, regardless of their technological differences, they reacted like their electronic brethren.

In sum, in this part of our report we have focused upon the intraorganizational and interorganizational alterations that occur within local mass media organizations as they respond to the demands of covering a disaster. We have noted changes in gatekeeping, decision making, the division of labor, and reporter autonomy, news sources, news competition, and the role of the media in the community response system. The influence of technology was found to be significant in at least one respect, because differences between print and electronic organizations were observed. However, the impact of the timing of the disaster in relationship to normal organizational rhythms and news processing activities appeared to be more important than technology alone in producing these social adaptations.

These changes are necessitated because of the magnitude of the event, the disruption of the normal community environment, the pressures of time and deadlines, and the inapplicability of normal, day to day patterns of news processing. The output of these changes, of course, is manifest in the content that is produced. Electronic media reports and newspaper stories represent collective, organizationally derived images of disaster. At this time, therefore, let us turn to an examination of this content.

PART III CONTENT ANALYSIS

Chapter 7. Prior Content Analyses of Disaster Topics

In this chapter, we very briefly allude to the existing literature on content analyses of disaster topics. In further reports from this project this material will be elaborated in more detail.

The first systematic analysis of mass media content was undertaken by Moore (1955) who examined the pattern of tornado coverage in a Waco, Texas newspaper. This initial effort did not precipitate an avalanche of research. Twenty five years later, the body of content analyses of disaster topics numbered less than ten studies. It included the works of Molotch and Lester (1974, 1975) who examined the bias in national media coverage of pro and anti environmental forces involved in a major oil spill, and Needham and Nelson (1977) who analyzed the coverage of floods and erosion in the Great Lakes region in seven newspapers and concluded that it was sensationalized. While Scanlon was beginning a series of long term, continuing research in Canada (Scanlon, 1978 and Scanlon, Tuukko and Morton, 1978) the lack of development of the field within the United States led a National Academy of Science workshop on mass media and disasters to recommend that content analyses of media coverage ought to be given high research priority (1980).

Since 1980 the interest in content analysis and the number of published studies has significantly increased, both within the United States and other countries. With regard to the work outside of the United States, Scanlon has continued his work in a number of studies (see the listings under Scanlon in the bibliography). McKay (1983) studied the accuracy of media coverage of brush fires in Australia and determined that, within the limits of normal coverage, the reports tended to be accurate. Alexander (1980) undertook a crosscultural study of media coverage of the Florence floods in both Italian and British media. Lombardi (1988) recently examined the content of three Italian newspaper accounts of the Chernobyl nuclear disaster. In addition, Rogers and Sood (1980) studied the content of national media organizations in India, France, and the United States with respect to both the Andrha Pradesh cyclone and the drought in the Sahel.

Within the United States the research has focused upon a variety of issues. Much of the effort has examined content related to technological disasters. Such events as the accident at Three Mile Island (Friedman, 1981, 1988; Stephens and Edison, 1980, 1982; Mazur, 1984), Love Canal (Ploughman, 1984), and toxic threats to the environment (Sandman, 1986) have been studied. In addition, Wilkins has undertaken major studies of both print and electronic media coverage of the Bhopal (Wilkins, 1986; 1987) and Bhopal and Chernobyl disasters (Wilkins and Patterson, 1987).

Natural disaster issues have also been examined. For example, Turner (1980; 1982) analyzed the nature of media coverage of earthquake topics in six local Los Angeles newspapers and electronic media. Network television coverage of Three Mile Island and five other major disasters were examined by Nimmo (1984) and Nimmo and Combs (1985) using both

quantitative and qualitative (dramaturgical) analysis. Quarantelli (1985) has undertaken the only systematic analysis of the content of disaster films. Finally, the issue of whether or not the content of the mass media perpetuates myths about disasters has been studied by Goltz (1984) and Wenger and Friedman (1986). The former argued that the content does not perpetuate myths, while the latter offered evidence that they do, although the differences in these conclusions probably stem from contrasting conceptual and methodological approaches to the problem. (For new studies which appeared when this report was being finished, see Masel-Walters, Wilkins and Walters, 1988).

Chapter 8. The Content Analysis Methodology Used in This Study

In this study we have built upon this foundation of previous content analysis work on disaster topics. In addition to the organizational analysis, we undertook detailed content analyses of 128 radio news reports, 175 television news stories, and 906 newspaper stories. Both quantitative and qualitative techniques were utilized in these analyses. Before presenting some summary findings, we will briefly discuss the methodology that was employed and note the variables that were included in the examination.

The content was gathered from two television stations, two radio stations, and nine newspapers . (This content was produced by the outlets that were included in the case studies of mass media organizations.) For the electronic media, the material covers the first two days of the post impact period. For the print media, the content includes all stories published over a two week period after the disaster.

Each report or story was classified on the following dimensions:

Headline - the headline attached to the story.

Placement - page on which the story appeared or the placement of the story within the newscast.

Column Inches or Time - the total space or time devoted to the story.

Photographs or Graphics - accompanying photographs and graphics were noted and described.

Format - for electronic content, the format of the story was classified as anchor only, anchor-reporter-anchor, etc.

Percentage of the News Hole or Broadcast - the percentage of the total news in the paper or broadcast included within each story was recorded.

Source - the source of the story was classified into the following categories: 1) wire service, 2) syndicated service, 3) local bureau, 4) local staff, 5) other and 6) not discernible.

Dateline - any dateline associated with the story was noted.

Location - the location of the story was classified as 1) local, 2) state, 3) national, and 4) international.

Disaster Period - the disaster period discussed in the story was classified into the following categories: 1) pre impact, 2) impact, 3) crisis or emergency, 4) short range restoration, and 5) long range rehabilitation, and various combinations.

Disaster Agent Generated Activities – stories were analyzed in order to determine if they included a discussion of the following activities: 1) disaster planning, 2) structural mitigation activities, 3) warning, 4) evacuation, 5) short term sheltering, 6) scope and intensity of impact, 7) search and rescue, 8) casualty care, 9) extended sheltering, 10) restoration of essential services, 11) provision of food, clothing and human services, 12) restoration of housing, 13) restoration of commerce, 14) long range individual effects, 15) long range community effects, 16) debris clearance, 17) future mitigation and planning activities, and 18) other. None, one or any number could be discussed in each story.

Response Generated Activities – stories were analyzed in order to determine if they included a discussion of any or all of the following response generated activities: 1) convergence, 2) communication, 3) social control, 4) coordination, 5) assignment of responsibility, and 6) fund raising.

Estimates of Impact – estimates of loss of life, casualties, and property destruction were noted.

Authoritative Sources – stories were examined to determine if they cited any of the following sources: 1) national government, 2) regional government, 3) national environmental agency, 4) regional environmental agency, 5) state officials, 6) other national officials, 7) local governmental officials, 8) local relief officials, 9) local business representatives, 10) local utility officials, 11) local media representatives, 12) local military representatives, 13) local police, 14) local fire, 15) local emergency management officials, 16) local public weather officials, 17) local private weather representatives, 18) local hospital officials, 19) local emergency medical service representatives, 20) local religious representatives, 21) local educational representatives, and 22) local citizens.

Type of Story – Each story was classified as being 1) hard news: a story focusing upon the description of facts about an empirical event that occurred within the past two days of coverage; 2) soft news: a story focusing upon the description of facts about an empirical event that occurred prior to two days before publication or broadcast, or that is likely to occur after two days of publication or broadcast, 3) hard analysis: a story involving the analysis of events, problems, activities, etc., of current disaster events, and 4) soft analysis: a story involving the analysis of events, problems, activities, etc. of disaster events occurring prior to two days before publication or likely to occur at some time in the future, but after two days. Combinations of the above were also recorded.

Tone of the Story – the "tone" of each story was classified as being 1) instrumental (a story primarily concerned with "facts" about the scope and intensity of impact, magnitude of relief and restoration activi- ties, warning predictions, and other general preparation and/or response activities), or 2) expressive (a story primarily concerned

with human interests, morale maintenance, etc.) Combinations of these elements were also noted.

Disaster Myths – stores were analyzed to determine if they discussed the following disaster myths: 1) panic, 2) looting, 3) martial law, 4) mass evacuation, 5) heightened criminal behavior, 6) disaster shock, 7) shelter utilization, and/or 8) other. A single story could discuss none, one or more of the above topics.

In addition, a qualitative analysis of all of the stories was undertaken. This analysis focuses upon the themes and depictions that are included in each story for all of the agent generated activities, response generated activities, sources and disaster myths. In other words, all stories concerning specific activities, such as evacuation and panic, or specific sources, such as citizens or local fire officials, were read in an inductive search for these inherent in the content.

The content was analyzed by trained researchers. Each story or report was coded according to the preceding variables. A separate researcher undertook the qualitative analysis. With regard to the quantitative variables, intercoder reliability for the most easily coded material, such as location, size, placement, etc. was about 98 percent. For some categories, such as authoritative sources cited in the material, the reliability dropped to about 90 percent. For the coding of more interpretative content, such as the tone of the story, approximately 80 percent reliability was obtained.

Chapter 9. Some Major Themes and Findings from the Content Analysis

In this summary report we are only going to highlight certain major findings and themes from the massive analysis we undertook. A comprehensive, detailed analysis is being completed separately and will be published as an independent volume and in professional journals.

1.   The Level and Prominence of Disaster Coverage Was Very High in The Involved Communities.

For both the print and electronic media, the disaster was obviously a big story. Local newspaper coverage was examined for nine communities. The range of coverage was from 44 to 160 stories with an average of almost 90 stories in each newspaper concerning the disaster. Of these stories, 33 percent appeared on the front page and 55 percent appeared within the first three pages. In addition, a total of almost 700 photographs accompanied the 904 stories.

With regard to coverage by the electronic media, within the two communities where data were obtained, the local television stations selected for analyses produced a total of 175 reports during the first two days, or about 44 reports each day. In both cases normal programming was preempted, and news coverage was extended to cover the disaster. Radio coverage during the first two days totalled 134 reports, or about 34 reports each day.

2.   Local Media Have a Strong Proprietary Relationship to Their Disasters.

In all of the communities, and across all of the media groups, not only was the disaster a local story, but it was produced by coverage within the local mass media organizations. Over 95 percent of all the stories were produced by the local staffs of the media outlets. The few stories that were not written by local staff writers or produced by local staff were from state, regional and national bureaus.

News services, wire services and outside sources amounted to less than one percent of the coverage, even though they were producing copy and tape in many cases and this material was available to the local outlets. As a result of this pattern, the percentage of the news hole devoted to local stories significantly increased in the outlets. Normal gatekeeping and news processing activities had to be altered to produce the unusually heavy load of local reports. Furthermore, within the print media there was considerable concern evidenced over copyrighting material. For these communities it was "their disaster" and "their coverage."

3. Certain Agent Generated Activities Receive Extensive Treatment by Local Mass Media Organizations, While Other Important Activities are Relatively Ignored and are "Invisible".

All of the mass media pay particular attention to the disaster tasks of warning, evacuation, short term sheltering, and impact behavior. In fact, there is somewhat a fascination with these activities, which are the heart of movie portrayals of disaster. Of the 134 radio reports, 76.9 percent mentioned the effects of the impact and the behavior of individuals during impact. In addition, 47 percent discussed evacuation behavior, 42.5 percent mentioned warning, and 30.6 percent dealt with sheltering. The 175 television stories also focused upon impact behavior, 48.6 percent; evacuation, 36.6 percent, and sheltering, 16 percent. Newspapers also focused upon these activities; however their treatment was not as concentrated.

(It is important to note that we have material on two weeks of newspaper coverage in each community, but only two days of reports by the electronic media. However, it is our general observation that disaster coverage tends to be more extensive and of a longer duration for newspapers. The electronic media, particularly radio, seems to "lose interest" in the story rather quickly after the initial emergency period. Currently, analyses of the content of all the media in a linear fashion through time as measured by days after impact is being undertaken. The presentation of these findings will be made in subsequent publications.)

Less attention is given in mass media content to such matters as casualty care, the provision of food, clothing and human services, and the restoration of essential services. For example, 14.9 percent of the radio reports, 13.7 percent of the television stories, and 13.3 percent of the newspaper accounts discussed the provision of human services. Moderate attention was paid to the preimpact issues of disaster planning and structural mitigation measures. Radio provided the most coverage of these issues, with 16.4 percent of its reports discussing planning and 19.4 percent noting issues involved in mitigation.

However, what is most interesting is the lack of attention paid to other important disaster tasks that occur during the emergency period. In particular, search and rescue behavior tends to be ignored by local media. Only 8.2 percent of the radio reports, 8.6 percent of the television accounts, and 8.5 percent of the newspaper stories discussed search and rescue. This important activity is almost invisible in most stories.

Why is search and rescue relatively invisible? We will consider the issue in more detail when we discuss sources. However, one hypothesis that may be offered concerns the reliance upon traditional sources and "beats" in the coverage of disasters. A great deal of search and rescue activity is emergent, ad hoc behavior undertaken by individuals and small group volunteers. These citizens are not a part of the

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normal news net for these organizations; i.e., they are not traditional sources. Therefore, this activity "falls through the holes in the net."

Finally, the electronic media pay little attention to such issues as long term individual and community effects, future mitigation, the restoration of commerce, extended sheltering and the provision of housing. During the first two days of coverage, newspapers also tend to ignore these issues; however their coverage is somewhat more extensive than that of the electronic media.

The attention paid by local mass media outlets to certain emergency activities at the expense of other tasks may create a distorted image of the problems of disaster for their audiences. Specifically, by focusing upon behaviors surrounding warning, impact, shelter, and evacuation, an individualistic orientation to the disaster is created, while systemic or commonweal concerns are relatively ignored. The mass media in the United State have often been charged with simplifying their coverage of complex events. Furthermore, being embedded within a society that culturally values and extols the virtues of individuals as being paramount to those of the society or group, mass media content often has an "individualistic orientation." These two elements fuse in disaster coverage. The vivid, "hollywood" tasks that directly impact upon the lives of individuals are focused upon. (Interestingly, these activities are also the responsibility of organizations that generally are included within the traditional news net.) Restoration of service, the provision of mass care, and longer range community restoration are not given prominence.

4. With Regard to Response Generated Activities, Inter-Media Differences Can Be Observed.

Within the electronic media, radio provides more extensive coverage of such issues as problems of convergence, communication and coordination than does television. Conversely, television, with its focus upon destruction and visual impact, places more attention upon the effects of the impact upon the destruction of property and loss of life. For example, 47 percent of radio reports discussed problems of convergence, while only 10.9 percent of television accounts reported on this common disaster problem. Similarly, 22.4 percent of radio reports discussed problems of communication, while only 3.4 percent of television stories noted these problems. The corresponding figures for problems of coordination were 18.7 percent and 11.4 percent. On the other hand, television was more likely to focus upon impact effects (21.2 percent of all stories as opposed to 15.7 percent) and blame for the disaster (9.7 percent compared to no attention on the part of radio.) It should be noted that these comparisons involve the same media in the same disasters over the same time period.

While newspapers did discuss impact effects in 27.8 percent of their stories, they were more attune to such issues as blame, future fund raising, and social control activities than were their electronic

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competitors.   The breadth of coverage by the print media was more extensive.

In general, however, all mass media paid somewhat less attention to response generated problems than they did to agent generated concerns. (For a distinction between response and agent generated problems see Dynes, Quarantelli and Kreps 1981).   Once again, this pattern may indicate the influence of traditional news values.   The obvious problems of warning, evacuation, sheltering, and casualty care are not only vivid and important, but they are also easy to cover.   The less obvious concerns of coordination among responding units, communication difficulties between emergency response organizations, and conver-gence of supplies and personnel upon the disaster are more difficult to cover. Given the pressures of time and the need for producing some form of content to fill the expanded newshole, the focus upon those issues that are apparent and easy to cover is understandable.

5. Variation in the Sources Cited in the News Reports Indicates a Continued Reliance Upon Traditional Local Sources With the Addition of Considerable Citizen Citation.

Few national or regional officials are cited as sources in the content of the mass media.   For example, only 6 percent of radio reports, 6.3 percent of television stories, and 8.5 percent of newspaper accounts cited national officials.   State officials were cited more often. However, some local officials tended to be relied upon heavily in these stories.   Local governmental officials were cited in 14.2 percent of radio, 18.9 percent of television, and 23.7 percent of newspaper stories.   Local business representatives were also cited as a high rate. Other frequently cited sources represented police, fire and relief agencies.

It is interesting to consider what local sources are not cited to any great extent. Representatives from the local churches and educational system are rarely cited.   Weather agency personnel received little attention. Also representatives from the mass media themselves were seldom a cited source for information, even though they are often an unofficial source. Finally, we noted that local emergency management officials were only cited in 7.6 percent of radio reports, 1.7 percent of television accounts, and 2.6 percent of newspaper stories.

These patterns indicate the influence of traditional "beats" and sources in the coverage of disasters. Those source that were ignored in media accounts tended to represent segments of the community that are generally ignored during normal, day to day coverage. In addition, the reliance upon local, as opposed to state and national officials, is not only consistent with traditional news gathering patterns, but is also compatible with the "proprietary" orientation that is developed by media organizations toward "their local disaster."

The use of citizens as a source is also rather extensive. Radio used citizen sources in 17.2 percent of its stories, television in 18.9

percent, and newspapers in 28.5 percent. This finding raises a number of important research questions. First, what are the implications of relatively heavy citizen citation in stories for the "command post view?" Second, what types of stories are likely to include citizen sources? Third, are there any differences across print and electronic media in the use of citizens as sources? Fourth, are differing uses of citizens as sources related to the organizational needs of the various media? In pursuing these questions, the following observations were made.

6. The "Command Post View" is Prevalent for All Media Organizations, but it is Particularly Strong for the Electronic Media.

We developed an index of sources and classified each story or report as to whether or not it utilized: 1) only command post sources, 2) only non command post sources, 3) both command post and non command post sources, and 4) no sources. The electronic media are very "command post oriented." Within radio, 62.4 percent of the reports used some command post sources and 41.8 percent relied solely on command post officials. For television, 53.7 percent of all stories incorporated these sources, and 37 percent relied solely on command post officials.

Newspapers were somewhat less oriented to the command post point of view. Only 21.3 percent of the stories during the first two days of coverage relied solely on these types of officials. However, a total of 47.7 percent of the articles utilized at least one command post source. Conversely, only 15.7 percent of radio reports, 21.2 percent of television accounts, and 33.3 percent of newspaper stories utilized solely non command post sources.

Our organizational analysis, based upon participant observation and interviews with organizational informants, had indicated that citizens became an important source of information for reporters during disaster. This observation seemed to question, somewhat, the generality of the "command post view" of disasters. In other words, it was suggested that although there is a heavy reliance upon official and organizational contacts for reporters during disasters, their information is not limited to such official contacts.

However, the content analysis we undertook clearly shows that although citizens may be used as news sources by reporters, official and command post sources clearly dominate the actual content that is produced. In other words, although private citizens may be an important source for information, they are not an important source for attribution in published articles and broadcast reports. In utilizing the strategic ritual of objectivity, reporters continue to turn to command post officials for quotes and citations. Although citizen input may shape the structure of a story or news report, it tends to be a hidden, covert source.

In sum, the "command post view" is certainly present in the content. though it is less evident in actual news gathering process and the

construction of news accounts. Even though reporters do not rely solely upon officials, when constructing their stories, the views of command post representatives dominate.

7. Citizens are Utilized as Sources Differentially by Print and Electronic Media.

As we have observed, the use of citizens as sources, though dwarfed by references to command post officials, was still rather significant. Newspapers utilized citizen sources in 28.5 percent of their stories. The corresponding figures for radio and television were 17.2 percent and 18.9 percent.

It is interesting to note, however, that the print and electronic media utilized citizen sources differently. Newspapers primarily utilized citizens as sources in expressive or feature and human-interest stories. Of the 167 citations to citizens, 54.5 percent were in expressive pieces, while only 36 percent appeared in primarily instrumental articles. However, the electronic media being very instrumentally oriented, used its citizen sources 67.8 percent of the time in instrumental stories and only 26.8 percent of the time in expressive or feature accounts. The differences are striking and significant.

This differential utilization of citizen sources would appear to be a result of the contrasting organizational needs of the two types of mass media. We have previously noted that electronic outlets experienced more stress and underwent more change as a result of disasters. Furthermore, we also discussed the severe problem that they face given the interaction of the capabilities of their electronic technology for instantaneous transmission of content and the pressures of time and increased air time devoted to news. To fill this rapidly created, expanded newshole, the electronic media turn toward "hard news" and instrumental material. In gathering this material, electronic media personnel appear to rely upon any source that can provide any type of information, including citizens. Furthermore, given the truncation of the gatekeeping process that occurs in the electronic media, these citizen sources are more likely to be placed on the air live, or cited in the reports as some attribution must be given for the raw, instrumental content that is flowing out of the organization.

However, newspapers do not face the same problems. Gatekeeping is not truncated, in fact, in tends to be elaborated. Without the pressures for immediate dissemination of content, more expressive and analytical articles are produced. Citizens provide an important source of information for such stories, which is probably not a significant departure from normal practices.

8. Instrumental and Hard News Stories Dominate the Local Coverage of Disasters; However Newspapers, Even During the First Two Days After the Event, Are More Oriented Toward Expressive Accounts.

During a disaster, all of the local mass media are oriented toward instrumental stories. For all of the newspaper stories, about 58 percent were primarily instrumental in nature, while only 35 percent were primarily expressive or feature pieces. For the electronic media, the pattern is even stronger. Exactly 80 percent of the 303 reports were of an instrumental nature, while only 14.9 percent were primarily expressive.

In order to control for the effect of a longer period of coverage, we have compared the stories only for the first two days after the impact across all the media. The previously observed pattern still holds. For radio, 93 percent of the stories were instrumental, while television devoted 77.6 percent of its accounts to this type of material. The more expressive, feature and analytical nature of newspaper reporting, however, can be seen even during the initial days of the emergency period. Only 52.9 percent of the stories were instrumental, and almost one half were of an expressive nature.

As was previously discussed, the emphasis upon instrumental and "hard news" accounts may be a result of the need for electronic outlets to fill expanded air time quickly. Newspapers, free of the pressures of time and able to allow their normal news processing activities to function, present more of a balance between expressive and instrumental elements.

9. Traditional News Gathering Procedures Can Be Dysfunctional for Covering Certain Types of Disaster Activities.

The reliance upon traditional sources and beat can sometimes be detrimental to mass media coverage of disaster. This observation is particularly valid for those activities that are often undertaken by emergent, nontraditional groups, and individuals. Search and rescue, for example, represents such an activity.

Previously we noted that only 8.6 percent of newspaper articles and 8.4 percent of electronic reports discussed the important issue of search and rescue. The content analysis indicates that traditional sources are less likely to be referenced in material concerning search and rescue. Within the newspaper stories, only 12 percent of the search and rescue stories relied solely upon command post sources; this figure contrasts with the sole use of command post sources in 21.5 percent of the non search and rescue stories. Within the electronic media only 19.2 percent of the search and rescue reports solely relied upon command post sources; in contrast, 43.6 percent of the other stories did.

In other words, when covering search and rescue activity, reporters were forced to use nontraditional sources for their information. Not

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being a part of the traditional "news net," these sources were often missed, and as a result an important activity was given rather slight attention.

10. **The Mass Media in General and Television In Particular Present Content that Perpetuates Certain Disaster Myths.**

A quantitative analysis of media accounts indicates that only a small minority of them refer to such disaster myths as panic, looting, martial law, disaster shock, increasing crime, massive shelter utilization, mass evacuation, and victim helplessness. In general, less than ten percent of the stories and reports in both print and electronic media discuss these issues.

However, the qualitative analysis of such material presents a different image. Television is particularly prone to perpetuate the myths. After viewing hours of television news accounts, it is apparent to us that television's penchant for "shooting bloody," getting "good visuals", and focusing upon the dramatic can perpetuate certain myths. For example, although references to panic and looting constituted only a small proportion of the total television content, their presentations were dramatic and consistent with disaster myths. Reporters were asked to "discuss the panic and shock that they found among the victims." One station even showed films of a family pet, "in shock." Although the visual footage often belied the claim of panic and helpless, the commentary would suggest that these were common reactions. By presenting the typical coverage of life in public shelters, the image was espoused that all victims were located in these shelters, without noting that only about 10 percent of all the evacuees had found their way to such locations. Similar patterns were observed for other disaster myths.

PART IV CONCLUSIONS

Chapter 10. Summary Discussion of Findings

This summary discussion is based upon some observations made by Friedman and Wenger (forthcoming) derived from an analysis of this data. In particular, we are concerned with presenting some findings regarding the previous literature and some implications of our observations for the study of the effects of the environment upon mass communication organizations.

How do these findings compare to what is already known regarding the activities of the mass media in disasters? While some previous findings are supported or elaborated, others are contradicted.

The data regarding the gatekeeping processes were clear. Concerning the electronic media, the findings were similar to those offered by Waxman (1973) and Sood and his colleagues (1987). The gatekeeping processes were truncated during the emergency. Waxman's study, however, was limited to the gatekeeping activities within radio stations. Sood's work made no distinction between electronic and print media organizations.

Our study extended the examination of gatekeeping into the print media. A significant difference was found. Rather than being truncated; the gatekeeping processes within newspaper organizations is elaborated. This elaboration allowed them to extensively process and filter incoming information. While the electronic media attempted to broadcast "everything" pertaining to the disaster in an attempt to fill air time, the print media condensed all the incoming information into collaborative stories in an effort to conserve space.

The needs of these organizations are different during disasters, and consequently they adapt in dissimilar ways. Simply put, (proportional to the amount of disaster information) the electronic media have more time to fill during disasters; newspapers outlets have less. The respective alterations in the gatekeeping processes, therefore, are adaptive measures needed to respond to this emergent situation.

However, we have also observed that the role of technology is somewhat of secondary importance to that of time. When the disaster occurs is one of the most significant factors that influences the patterns of organizational response by the mass media. When the timing of the disaster creates stress upon print organizations, they respond in a manner that is similar to the electronic counterparts.

The findings concerning the sources commonly used by mass media organizations raise some questions regarding the "command post view" (Quarantelli, 1981). These findings do not contradict the notion that the mass media generally rely upon officials as sources of news; however, they are not the exclusive sources. In other words, the use of the audience as a source of information for some mass media activities in disasters occurs. Such sue may serve to counter balance the command post view to a certain degree.

However, the content analysis indicates that although citizens may be used as sources for information, they are less likely to be sources of attribution for information in the actual content that is produced. In the content itself, official sources still dominate.

Therefore, while the command post view is definitely present during disasters, and officials are often sought as news sources during disaster, the audience also is an important source of news, particularly for the electronic media who utilize citizen sources in the production of instrumental or hard news stories.

As was observed by Sood and his colleagues (1987), a substantial amount of information sharing was observed to occur among reporters. The sharing tended to be informal in nature and heightened during the emergencies. Information was often scarce and needed. At command posts, evacuation shelters, hospitals, and other sites, reporters congregated and swapped information.

In this study we have presented a number of specific findings and discussed a number of specific problems that confront mass media organizations in responding to local disasters. At this time we would like to discuss further the important linkages between the environment and mass media operations.

This study has taken an organizational approach to the study of mass media organizations in disasters. It has attempted to illustrate how these organizations are affected by a sudden and dramatic change in their environment. The relationship between the mass media organization and the environment is critical.

During non-disaster or normal times, the mass media organizational structure allows the organization to order the environment in such a way that it is able to report only a limited number of events from an infinite number that are available; i.t., it cannot mirror reality. Studies by mass communication scholars, such as Epstein (1973) Tuchman (1978), and Gans (1979) have demonstrated how mass media organizations work within organizational limits and economical and temporal constraints. In an effort to operate within these parameters, and within the timing and rhythms of the organization, organizations rely upon such devices as beat systems, press conferences, press releases, wire services, other media outlets, etc. These mechanisms allow the organizations to report many events without actually attending them or at least with very little effort. In part, restraints such as these are responsible for the different types of coverage and stories reported by the different types of media. Their particular technology and the normal timing and patterns of organizational activity facilitate the coverage of certain events. The timing of an event has a substantial effect upon whether or not it will be covered. Basically, the earlier an event takes place, the greater are its chances of being covered by the media. Therefore, press conferences and other pseudoevents are often scheduled at times which are most amenable to the media. But

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because of the differences in technology and deadlines, certain events are more easily covered by the electronic media and other events by the print media.

However, the result of these organizational limitations is that many possible newsworthy events are never covered because they fall outside of the news net. Simply put, mass media organizations, like most organizations, must make their environment as predictable as possible. Day to day these organizations, therefore, can rely upon the environment to fit their organizational limitations and needs. However, in the event of a disaster, the environment is altered and the organization is placed in a turbulent and unplanned situation.

The changes within the environment can have a substantial effect on the organization. The extent of this effect varies with the ability of the organization to respond, i.e., its resources, flexibility, and the degree of effort it undertakes to meet these environmental alterations. Many small media outlets do not experience any change at all because they make no effort to respond to the new situation. For those that do respond, what are their adaptations?

The unpredictability of the situation tends to throw off the normal organizational rhythms. The organization can no longer rely upon the daily routine of events to occur in its environment. For example, the normal Tuesday night town council meeting or the Thursday night basketball game may not be held as scheduled. In addition, the normally convenient time for press conferences may not be met. These types of changes can be extremely problematical for the normal deadlines and press times of media organizations. Furthermore, certain normal, traditional sources and beats, such as the county court, may become unimportant or irrelevant, while others, such as the Red Cross or Salvation Army, may become critical. Reporters may not know the representatives from these organizations or have the degree of rapport with them that they have with their traditional sources. Hence, reporters may face difficulties contacting sources and obtaining information. Moreover, and perhaps most critical, rather than having an overabundance of news, these organizations suddenly are faced with the possible problem of having a shortage of information to fill the time or space devoted to content.

The effects of the altered environment and new demands lead to alterations in the organization. Instead of the organization shaping the environment, the environment shapes the organization. Among other changes, gatekeeping processes are truncated or elaborated, the decision making becomes a collective process, reporters are granted more autonomy, and sharing information becomes a prominent norm. In effect, the news net is shifted to capture different kinds of news items.

Chapter 11. Suggestions for Future Research

With regard to future research, the findings laid out in this report point to the importance of continuing to examine differences across types of media and across media of varying sizes. Furthermore, the relationship between technology and the timing of the event must be explored in more detail. Under what conditions do newspapers evidence the same degrees of stress and alterations as electronic outlets? In addition, studies of the influence of disaster planning upon media response should be undertaken. Evidence from this study indicates that the level of disaster planning is quite low in media organizations; however where planing existed and was of good quality, response patterns benefitted. Further research into this linkage is needed.

An important area requiring further analysis involves the role of the mass media in the emergency response system. Studies of the interorganizational relationships between mass media and emergency management officials should be commenced, particularly in light of the serious issues of conflict or disagreement about role and organizational responsibilities that can emerge during disasters.

In addition, future research should focus upon the role of the media in facilitating the convergence problem. Our content analysis indicates that the electronic media can stimulate the convergence of unneeded and nonessential material aid upon the disaster through unsolicited calls for aid. However, these observations are simply clues or hints. A systematic study of media content and its relationship to convergence should be undertaken.

Finally, content analysis must be focused in the future on the electronic media. In this study we have only been able to observe and analyze the first two days of coverage by four electronic outlets. There are serious methodological problems of data access in doing this type of research, but more attention must be paid to electronic, and specifically television content, given its preeminent position as a news source for the audience.

BIBLIOGRAPHY

Adams, David
     1974   A description and analysis of a radio station
                    operation during a forest fire. Preliminary Paper
                    14. Newark, DE.: Disaster Research Center,
                    University of Delaware.

Alexander, David
     1980   "Florence flood--what the papers said,"
                    Environmental Management 4: 27-34.

Altheide, D. L.
     1976   CREATING REALITY: HOW TV NEWS DISTORTS EVENTS.
                    Beverly Hills, CA.: Sage.

Bagdikian, Ben
     1971   "Professional personnel and organizational
                    structure in the mass media". in W. Phillip Davison
                    and Frederick Yu (eds.) MASS COMMUNICATION
                    RESEARCH: MAJOR ISSUES AND FUTURE DIRECTION. New
                    York: Praeger Publisher.

Barton, Allan
     1970   COMMUNITIES IN DISASTERS. New York: Anchor.

Boorstin, Daniel
     1961   THE IMAGE: A GUIDE TO PSEUDOEVENTS IN AMERICA. New
                    York: Athenaeum.

Breed, Warren
     1955   "Social Control in the Newsroom," Social Forces 33:
                    326-335.

Brooks, John
     1970   A Sociological Study of Commercial Broadcast
                    Organizations. Ph. D. dissertation. Columbus,
                    OH.: Ohio State University.

Carter, T. Michael
     1980   "Community warning systems: The relationships among
                    the broadcast media, emergency service agencies,
                    and the National Weather Service". Pp. 214-228 in
                    DISASTERS AND MASS MEDIA. Washington, D.C.:
                    National Academy of Sciences.

Cohen, S. and J. Young (eds.)
     1973   THE MANUFACTURER OF NEWS. London: Constable.

(no author)
     1980   DISASTERS AND MASS MEDIA. Washington, D.C.:
                    National Academy of Sciences.

Donohew, Lewis
    1967   "Newspaper gatekeepers and forces in the news
                    chain," <u>Public Opinion Quarterly</u> 31: 62-66.

Drabek, Thomas
    1986   HUMAN SYSTEM RESPONSES TO DISASTER: AN INVENTORY OF
                    SOCIOLOGICAL FINDINGS. New York: Springer Verlag.

Dynes, Russell
    1974   ORGANIZED BEHAVIOR IN DISASTER. Newark, DE.:
                    Disaster Research Center, University of Delaware.

Dynes, Russell, E. L. Quarantelli and Gary Kreps
    1981   A PERSPECTIVE ON DISASTER PLANNING. Newark, DE.:
                    Disaster Research Center, University of Delaware.

Epstein, Edward J
    1973   NEWS FROM NOWHERE. New York: Random House.

Fishman, M.
    1980   MANUFACTURING THE NEWS. Austin: University of
                    Texas Press.

Friedman, Barbara
    1987   The Art of Storytelling: The Structuring and
                    Processing of News During Disasters. Miscellaneous
                    Report 39. Newark, DE.: Disaster Research Center,
                    University of Delaware.

Friedman, Barbara and Dennis Wenger
    1988   Mass media intra- and inter-organizational
                    adaptations to disasters. Unpublished paper.

Friedman, Sharon M.
    1981   "Blueprint for breakdown: The structuring and
                    processing of news during disasters," <u>Journal of
                    Communication</u> 31: 116-128.

Friedman, Sharon M., Carole Gorney and Brenda Egolf
    1987   "Reporting on radiation: A content analysis of
                    Chernobyl coverage," <u>Journal of Communication</u> 37:
                    58-79.

Gans, Herbert J.
    1979   DECIDING WHAT NEWS: A STUDY OF CBS EVENING NEWS,
                    NBC NIGHTLY NEWS, NEWSWEEK AND TIME. New York:
                    Pantheon.

Gieber, Walter
1964   ""News is what newspapermen make it". Pp. 173-182
in L. A. Dexter and D. N. White (eds.) PEOPLE,
SOCIETY AND MASS COMMUNICATION. New York: Free
Press.

Goltz, James
1984   "Are the news media responsible for the disaster
myths? A content analysis of emergency response
imagery," International Journal of Mass
Emergencies and Disasters 2: 115-145.

Green, Kenneth
1983   A case study analysis of the relationship of local
newspapers and disaster related citizen groups.
Preliminary Paper 86. Newark, DE.: Disaster
Research Center, University of Delaware.

Hage, Jerald and Michael Aiken
1969   "Routine technology, social structure and
organizational goals," Administrative Science
Quarterly 14: 378-397.

Harless, James and Galen Rarick
1974   The radio station and natural disaster.
Unpublished paper.

Hiroi, Osamu, Shunji Mikami, and Kakuko Miyata
1985   "A study of mass media reporting in emergencies,"
International Journal of Mass Emergencies and
Disasters 3: 21-49.

Jamieson, Kathleen and Karlyn Kohrs Campbell
1983   THE INTERPLAY OF INFLUENCE. CA.: Wadsworth.

Kreps, Gary
1980   "Research needs and policy issues on mass media
disaster reporting". Pp. 35-74 in DISASTERS AND
MASS MEDIA. Washington, D.C.: National Academy of
Sciences.

Kueneman, Rodney and Joseph Wright
1976   "News policies of broadcast stations for civil
disturbances and disasters," Journalism Quarterly
53: 670-677.

Ledingham, J. and L. Masel-Walters
1985   "Written on the wind: The mass media and Hurricane
Alicia," Newspaper Research Journal 6: 50-58.

Lombardi, Marco
  1988   "Management of information in mass emergencies, An event: Chernobyl". in E. L. Quarantelli and Carlo Pelanda (eds.) PROCEEDINGS OF THE ITALY–UNITED STATES SEMINAR. Newark, DE.: Disaster Research Center, University of Delaware.

Masel–Walters, Lynne, Lee Wilkins and Tim Walters (eds)
  1988   BAD TIDINGS: COMMUNICATION AND CATASTROPHE. Hillsdale, NJ.: Lawrence Erlbaum.

(no author)
  1986   MASS MEDIA AND DISASTERS: ANNOTATED BIBLIOGRAPHY. 3rd edition. Newark, DE.: Disaster Research Center, University of Delaware.

Mazur, A.
  1984   "The journalists and technology: Reporting about Love Canal and Three Mile Island," _Minerva_ 22: 45–66.

McLuhan, Marshall
  1964   UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN. New York: McGraw Hill.

McKay, Jennifer
  1984   "Community response to hazard information," _Disasters_ 8: 118–123.

McQuail, Dennis
  1964   TOWARDS A SOCIOLOGY OF MASS COMMUNICATIONS. London: Collier Macmillan.

McQuail, Dennis
  1984   MASS COMMUNICATION THEORY: AN INTRODUCTION. Beverly Hills, CA.: Sage.

Molotch, Harvey and Marilyn Lester
  1974   "Accidental news: The great oil spill," _American Journal of Sociology_ 81: 235–260.

Molotch, Harvey and Marilyn Lester
  1975   "News as purposive behavior: On the strategic uses of routine events, accidents and scandals," _American Sociological Review_ 39: 101–112.

Moore, Harry Estill
  1958   TORNADOES OVER TEXAS: A STUDY OF WACO AND SAN ANGELO IN DISASTER. Austin: University of Texas.

Morentz, James
    1976   The Making of an International Event: Communication
                    and the Drought In West Africa. Ph. D.
                    dissertation. Pittsburgh, PA.: University of
                    Pennsylvania.

Needham, R. D. and J. G. Nelson
    1977   "Newspaper response to flood and erosion on the
                    North Lake Erie shore," Environmental Management
                    1: 521-540.

Nimmo, Daniel
    1984   "TV network news coverage of Three Mile Island:
                    Reporting disasters as technological fables,"
                    International Journal of Mass Emergencies and
                    Disasters 2: 116-143.

Nimmo, Daniel and J. Coombs
    1985   NIGHTLY HORRORS: CRISIS COVERAGE IN TELEVISION
                    NETWORK NEWS. Knoxville, TN.: University of
                    Tennessee Press.

Okabe, Keizo and E. L. Quarantelli (eds)
    forthcoming   MASS MEDIA REPORTING OF DISASTERS IN JAPAN AND THE
                    UNITED STATES.

Perrow, Charles
    1967   "A framework for the comparative analysis of
                    organizations," American Sociological Review 32:
                    194-208.

Ploughman, Penelope D.
    1984   The Creation of Newsworthy Events: An Analysis of
                    Newspaper Coverage of the Man-Made Disaster at Love
                    Canal. Ph. D. dissertation. Buffalo: State
                    University of New York.

Quarantelli, E. L.
    1981   "The command post point of view in local mass
                    communication systems," International Journal of
                    Communication Research 7: 57-73.

Quarantelli, E. L.
    1984   ORGANIZATIONAL BEHAVIOR IN DISASTERS AND
                    IMPLICATIONS FOR DISASTER PLANNING. Emmitsburg,
                    MD. : Federal Emergency Planning Agency.

Quarantelli, E. L.
    1985   "Realities and mythologies in disaster films,"
                    Communications: The European Journal of
                    Communication 11: 31-44.

Quarantelli, E. L.
    1987   Problems of field research: Techniques and
                    procedures. Working Paper 76. Newark, DE.:
                    Disaster Research Center, University of Delaware.

Quarantelli, E. L.
    1988   "The social science study of disasters and mass
                    communication". Pp. 1-19 in Masel-Walters, Lynne,
                    Lee Wilkins and Tim Walters (eds.) BAD TIDINGS:
                    COMMUNICATION AND CATASTROPHE. Hillsdale, NJ.:
                    Lawrence Erlbaum.

Quarantelli, E. L. and Russell R. Dynes
    1977   "Response to social crisis and disaster," Annual
                    Review of Sociology 2: 23-49.

Rogers, Everett and Rahul Sood
    1980   "Mass media communication and disasters: A content
                    analysis of media coverage of the Andrha Pradesh
                    cyclone and the Sahel drought". Pp. 139-157 in
                    DISASTERS AND THE MASS MEDIA. Washington, D.C.:
                    National Academy of Sciences.

Rogers, Everett and Rahul Sood
    1981   Mass Media Operations in a Quick On-Set Natural
                    Disaster: Hurricane David in Dominica. Working
                    Paper 41. Boulder, CO.: Institute of Behavioral
                    Science, University of Colorado.

Roshco, Bernard
    1975   NEWSMAKING. Chicago: University of Chicago Press.

Rubin, David
    1987a   "How the news media reported on Three Mile Island
                    and Chernobyl," Journal of Communication 37: 42-57.

Rubin, David
    1987b   "Lessons learned from Three Mile Island and
                    Chernobyl: How the news media report serious
                    nuclear power accidents," Emergency Preparedness
                    Digest 14: 10-14.

Sandman, Peter M.
    1986   Providing Environmental Risk Information to the
                    Media: A Feasibility Study. New Brunswick, N.J.:
                    Rutgers Medical School.

Scanlon, Joseph
    1978   "Media coverage of crises: Better than reported,
                    worse than necessary," Journalism Quarterly 55: 68-
                    72.

Scanlon, Joseph
    1980   "The media and the 1978 Terrace floods: An initial
                    test of a hypothesis". Pp. 254-263 in DISASTERS
                    AND THE MASS MEDIA. Washington, D.C.: National
                    Academy of Sciences.

Scanlon, Joseph and Suzanne Alldred
    1982   "Media coverage of disasters," Emergency Planning
                    Digest 9: 13-19.

Scanlon, Joseph and Alan Frizzell
    1979   "Old theories don't apply: Implications of
                    communications in crisis," Disasters 3: 315-319.

Scanlon, Joseph and Robert Hiscott
    1985   "Not just the facts: How radio assumes influence in
                    an emergency," Canadian Journal of Communication
                    11: 391-404.

Scanlon, Joseph, R. Tuukko and G. Morton
    1978   "Media coverage of a crises. Better than reported,
                    worse than necessary," Journalism Quarterly 55: 66-
                    72.

Scanlon, Joseph, Suzanne Alldred, Al Farrell and Angela Prawzick
    1985   "Coping with the media in disasters: Some
                    predictable problems," Public Administration Review
                    45: 123-133.

Sigelman, L.
    1973   "Reporting the news: An organizational analysis,"
                    American Journal of Sociology 79: 132-151.

Sigal, L. V.
    1973   REPORTERS AND OFFICIALS. Lexington, MA.: Health.

Singer, Benjamin D. and Lyndsay Green
    1972   THE SOCIAL FUNCTIONS OF RADIO IN A COMMUNITY
                    EMERGENCY. Canada: The Copp Clark Publishing
                    Company.

Sood, Rahul
    1982   News Media Operations in Natural Disasters. Ph. D.
                    dissertation. Stanford, CA.: Stanford University.

Sood, Rahul, Geoffrey Stockdale and Everett M. Rogers
    1987   "How the news media operate in natural disasters,"
                    Journal of Communication 37: 27-41.

Stephens, M. and N. Edison
    1980   "Coverage of events at Three Mile Island," Mass
                    Communication Review 7: 3-9.

Stephens, M. and N. Edison
      1982   "News coverage of issues during the accident at
                          Three Mile Island," Journalism Quarterly 59: 199-
                          204.

Turner, Ralph
      1980   "The mass media and preparation for natural
                          disaster". Pp. 281-292 in DISASTERS AND MASS
                          MEDIA. Washington, D.C.: National Academy of
                          Sciences.

Turner, Ralph
      1982   "Media in crisis: Blowing hot and cold," Bulletin
                          of the Seismological Society of America 72: 19-28.

Tuchman, Gaye
      1978   MAKING NEWS: A STUDY IN THE CONSTRUCTION OF
                          REALITY. New York: Free Press.

Waxman, David
      1973a   "Local broadcasting gatekeeping during natural
                          disasters," Journalism Quarterly 60: 751-758.

Waxman, David
      1973b   An Analysis of Commercial Broadcasting
                          Organizations During Flood Disasters. Ph. D.
                          dissertation. Columbus, OH.: Ohio State
                          University.

Wenger, Dennis and Barbara Friedman
      1985   Local and national media coverage of disaster: A
                          content analysis of the print's media treatment of
                          disaster myths. Preliminary Paper 99. Newark,
                          DE.: Disaster Research Center, University of
                          Delaware.

Wenger, Dennis and Barbara Friedman
      1986   "Local and national media coverage of disaster: A
                          content analysis of the print media treatment of
                          disaster myths". International Journal of Mass
                          Emergencies and Disasters 4: 27-50.

Wenger, Dennis, E.L. Quarantelli and Russell Dynes
      1988   Disaster Analysis: Police and Fire Departments.
                          Final Report 35. Newark, DE.: Disaster Research
                          Center, University of Delaware.

White, David
      1950   "The gate-keeper: A case study in the selection of
                          news," Journalism Quarterly 27: 383-390.

Wilkins, Lee
1986   "Media coverage of the Bhopal disaster: A cultural myth in the making," <u>International Journal of Mass Emergencies and Disasters</u> 4: 7-33.

Wilkins, Lee
1987   SHARED VULNERABILITY: THE MASS MEDIA AND AMERICAN PERCEPTION OF THE BHOPAL DISASTER. Westport, CT.: Greenwood Press.

Wilkins, Lee and Philip Patterson
1987   "Risk analysis and the construction of news," <u>Journal of Communication</u> 37: 80-92.

Witt, Evans
1986   "Where Americans get their news". Pp. 308-315 in Michael Emery and Ted C. Smythe (eds.) READINGS IN MASS COMMUNICATION. Iowa: Wm. C. Brown.

Wright, Charles   MASS COMMUNICATION: A SOCIOLOGICAL PERSPECTIVE. New

1985   York: Random House.

APPENDIX I

AN ANNOTATED BIBLIOGRAPHY ON MASS MEDIA AND DISASTERS

This Annotated Bibliography is an updated version of what in 1988 was originally issued as DRC Miscellaneous Report #42 under the title of MASS MEDIA AND DISASTER: ANNOTATED BIBLIOGRAPHY 3rd Edition. Besides the addition of several new references, this version includes slightly rewritten abstracts of a few that were in the earlier report. To the extent it was possible, the language and vocabulary used in the abstracts are those used by the authors themselves. No attempt at any evaluation of the quality of the work is attempted, but writings of a nonsocial science nature are generally not included. The bibliography, while extensive, is not exhaustive, but it contains the great majority of English language works produced on the topic. No foreign language sources are included because of the translation problem, but interested readers should be especially aware that there are relevant Italian and Japanese sources. Copies of unpublished papers listed are available in the resource collection of the Disaster Research Center.

Adams, David
    1974   "A Description and Analysis of a Radio Station
                Operation During a Forest Fire." Preliminary
                Paper #14. (Newark, Delaware: Disaster Research
                Center University of Delaware).

This paper provides a case study of a small, central California radio
station during a forest fire. It focuses on the effects of the
disaster on the division of labor and authority structure within the
station. As a result of the disaster, the radio station's personnel
were able to become more specialized because of the reduction in the
number of positions needed and the increase in the number of personnel
available. The demands in the situation also required an increase in
coordination and a more formalized authority structure. Neither of
these effects changed the organization fundamentally, but did reveal
the flexibility of the organization.

Alexander, David
    1980   "Florence Floods - What the Papers Said."
                Environmental Management 4:27-34.

Coverage of the 1966 floods in Northern Italy is the subject of this
study. The type of coverage is examined in a variety of print media.
The study includes three major Italian newspapers, two Italian
magazines and the British Press. The findings indicate that
approximately equal amounts of space were devoted to economic and
political factors of the disasters as well as to the physical
destruction of the event. In addition, it is noted that an overall
picture of the incident was not entirely made clear until weeks after
the event.

Amerisov, Alexander
    1988   "A Chronology of Soviet Media Coverage." Bulletin
                of the Atomic Scientists, 43: 38-40.

A chronological presentation of selected media coverage of the
Chernobyl incident is presented. The focus is upon reports in various
Soviet media, including Isvestia, Pravda, Pravda Urkain, radio and
television. The accident occurred on April 26, 1986. The chronology
covers the period from April 28, 1986 (when the first reports in Soviet
media appeared) until May 15, 1986. It is noted that the first reports
did not occur until two days after the event. In addition, it was
approximately 10 days before the first film footage of the accident
appeared on Soviet television. The changing nature and themes of the
incident are described.

Beady, Charles H., and Robert C. Bolin
       1986   "The Role of the Black Media in Disaster
                    Reporting to the Black Community." Working
                    Paper #56. (Boulder, Colorado: Institute of
                    Behavioral Science, University of Colorado).

This study examines the role of the media, in particular the black
media, in disaster reporting to the black community in the wake of
Hurricane Frederick which struck Mobile, Alabama on September 12, 1979.
Mobile was chosen as a study site because blacks comprise 30% of the
city's population and the city has several black-oriented media,
including two radio stations and two weekly newspapers. Members of the
black community were surveyed to determine demographic characteristics,
community losses to the hurricane, and the media use patterns of the
community. Interviews with media representatives and media content
analyses were used to determine media response to the disaster.
Findings indicated that during warning and impact there was a heavy
reliance on television in the community with an increasing use of radio
and newspapers in the post impact and recovery stages. The study also
found that the black media had limited reporting capacity compared to
the rest of the media in the city. There were no black television
stations, no daily black newspapers, and one of the black radio
stations was forced to go off the air because of damage sustained in
the hurricane. The study concluded that the black media could play an
essential role in addressing the particular concerns of the black
community in the recovery and reconstruction period.

Blong, R. J.
       1985   Public Views on Disaster Response and the
                    News Media--Some Australian Examples.
                    Mt. Macedon, Australia: Australia Counter
                    Disaster College).

The article replicates the 1975 study by Wenger on the role of the news
media in natural disasters. This study considers myths, reporting of
overseas natural disasters, and public recognition of local emergency
services. Major comparative findings from this study and the previous
study by Wenger include: looting, panic, and shelter use myths are
common to both; the media is the most frequently cited source of
individual information during a disaster; and television is the
preeminent media source. Finally, it is noted that there is some
dissatisfaction with media coverage and that the viewers would prefer
accuracy to immediacy in news broadcasts.

Bolduc, Jean Pierre
       1987   "Natural Disasters in Developing Countries:
                    Myths and the Role of the Media," Emergency
                    Preparedness Digest, 14: 12-14.

The article addresses the various myths that are often perceived by the
public in disasters that hit developing countries and the media's role
in perpetuating them. The author focuses on myths that relate to the

donating of large quantities of goods to the country--such as food, clothing and medicine. Also, that people perceive each disaster as having the same needs, and that the citizens are panicky and need special rescue teams to pull out the victims. These perceptions are not true. The author places part of the blame on the media. The journalist who is reporting the disaster is perceived as an immediate expert, and when one states that the needs of the country are unmet, people believe them. Also, the media forces authorities to react immediately and puts pressure on others to donate goods. The author concludes by stating that what is needed is quick, yet accurate information and not exaggerations. Also, that the media should be more responsible about what they are reporting.

Boot, William
      1985   "Ethiopia: Feasting on Famine." Columbia
                Journalism Review 23: 47-48.

The article examines the mass media's slow-on-the-uptake coverage of the 1984-85 Ethiopian famine and the equally devastating, but almost thoroughly ignored, famine in northeastern Brazil which occurred at the same time. Network television coverage (by BBC, CBS, NBC, and ABC) is viewed in the light of their preference to "shoot bloody"--to focus on stories highlighting the visually impacting facets of disasters. The author charges that the networks focused on the Ethiopian famine because of its visual aspects: i.e., lines of emaciated and dying adults and children at desert feeding stations. Brazil was ignored by the media because of its lack of visually dramatic images: e.g., the population was more dispersed and recent rains had greened the famine region making it look too "healthy." In addition, the sensationalistic aspects of media coverage in disasters are discussed.

No Author
      1974   A Broadcasters Guide to Planning for Natural
                Disasters (Washington, D.C.: National
                Association of Broadcasters).

A discussion of how broadcasters ought to prepare for and operate during natural disasters. Examples (e.g., of emergency plans), lists (e.g., of emergency officials stations should know about), rules (e.g., F.C.C. regulations on emergency operations), and many details and suggestions on what should be done.

Britton, Neil R.
      1982   The Bushfires in Tasmania February 1982:
                How the Disaster Relevant Organizations Responded.
                (Townsville Australia: Center for Disaster Studies,
                James Cook University): 181-198.

This section of the report on the news media services during disaster situations focuses upon mass media organizations as disaster relevant organizations. It is argued that in order to improve organizational response during emergencies, the essential role of mass media

organizations must be recognized. The entire volume is devoted to the case of the February 1982 bushfires in Tasmania. The author points out certain problems involved in the response of the media during this incident. The problems include: the dissemination of inaccurate accounts, subjective reporting, and problematic relations with public information officers. Suggested solutions also are offered, including improved training for reporters covering such incidents and greater recognition on the part of other emergency relevant organizations of the important role of the media during emergencies.

Brooks, John Michael
     1970   "A Sociological Study of Commercial Broadcast
               Organization." Unpublished doctoral dissertation.
               (Columbus, Ohio; Department of Sociology, The Ohio
               State University.)

This dissertation looked at the general operation of radio and television stations; one part, summarized in one chapter, examined the preparations for and emergency time operations of the stations. Thirty three stations (20 radio and 13 TV) were contacted in six different cities ranging in size and emergency experience. Three of these cities had experienced natural disasters and three had experienced civil disturbances. Through the use of an open ended interview guide, 100 interviews were conducted with personnel in ownership, sales, program, news, engineering, and on-air positions. The internal structure of stations varied depending on mediating factors such as size of station, charter-goals-domain (profit vs. service policies), ownership, management, division of labor, authority structure, power and influence structure, and recruiting and turnover patterns. As predicted, radio and TV stations were found to operate similarly to other complex organizations. The News Department was studied for emergency operation procedures. Emergency planing tended to be flexible and adaptive to a wide range of crises. Past events and experience influenced planning and the specific tasks were assigned only to the news director. Operations during an emergency depended on the nature and duration of an event, resources, and contacts of the station. Because access to the disaster site is easier and safer in a natural disaster, natural disasters affect operations differently than do civil disturbances. Also, during large scale emergencies, a division of labor forms, with each station responsible for specific tasks. Finally, suggestions for future studies were made, including comparison of broadcast organizations to other large scale organizations, and social and political impact on the operation of stations.

Brouillette, John
     1966   "A Tornado Warning System: Its Functioning on
               Palm Sunday in Indiana." Research Report #15.
               (Newark, Delaware: Disaster Research Center,
               University of Delaware).

The Palm Sunday tornadoes of April 1965, which touched down in six midwestern states, are discussed in this study. The paper describes

how the information flowed through organizations to the general public.
The path of communication started at the local weather bureau and the
information was passed on to various organizations. The patterns of
response varied from organization to organization. Lack of power in
most counties posed many communication problems. A general lack of
inter-organizational planning resulted in an overlap of some activi-
ties, while leaving other tasks undone. Often pertinent information
was not available to the general public. Also, even if the information
was received, the warning was not necessarily heeded. The article
concludes with the U.S. Weather Bureau's ten recommendations for
alleviating some of the deficiencies in warning. The recommendations
dealt with alerting all segments of the community about preparedness
and warnings. Possible improvements range from more complete radar
coverage to more adequate emergency power.

Caldwell, Nick, Andrew Clark, Des Clayton, Kuldip Malhotra and Dag
Reiner
      1979   "An Analysis of Indian Press Coverage of the
                 Andhra Pradesh Cyclone Disaster of 19 November 1977."
                 Disasters. 3:154-168

This content analysis of Indian press coverage of the Andhra Pradesh
cyclone disaster focuses upon The Hindu and The Indian Express. Fifty
days worth of coverage are examined. The article primarily consists of
a chronology of coverage throughout this period focusing upon 11 key
issues, such as political issues, pre-disaster factors, agricultural
factors, etc. The authors conclude by asking four general questions
regarding this coverage spawned by their findings. These questions
raise issues regarding the accountability and responsibility of the
press toward victims and the validity of the impressions gained through
the media.

Carter, T. Michael
      1980   "Community Warning Systems: The Relationships
                 Among the Broadcast Media, Emergency Service
                 Agencies, and the National Weather Service." in
                 Disasters and the Mass Media (Washington, D.C.:
                 National Academy of Sciences): 214-228.

The data for this discussion come from a nationwide study of natural
hazard warning systems conducted in 20 communities in 18 states. The
studies indicate that most people receive warnings either directly or
indirectly from the broadcast media, since neither the local weather
service office nor the local emergency service agencies issue warnings
directly to the public. Therefore, a viable linkage must exist between
the local emergency service agencies and the media. The paper dis-
cusses these linkages. Found to be limited in many communities are (1)
the extent to which broadcast media stations have the capability to
receive hazard-related information from a variety of community
emergency service agencies, and (2) the extent to which such capability
is used during threatening situations to inform the public of the

nature of the threat. The negative implications of these findings for public response to warnings is discussed.

Christensen, Larry and Carlton E. Ruch
    1978   "Assessment of Brochures and Radio and Television
                Presentations on Hurricane Awareness." Mass
                Emergencies 3:209-216.

This article describes a study which was devised to determine the effectiveness of a hurricane awareness program developed by the Governor's Division of Disaster Emergency Services in a sample of 1350 residents in 22 coastal cities. The questions focused upon the respondents knowledge regarding the accuracy of hurricane information, their intended response and their beliefs about hurricanes. The findings suggest that the brochure (available and check out counters in supermarkets) had a significant, positive effect toward increasing the residents accuracy of information about hurricanes. Radio and television had significant effects on residents' beliefs, but non-significant or negative effect on hurricane awareness or preparedness. The conclusions suggest that the effectiveness of the program is a function of the type of information presented to the public.

Conrad, Andree
    1978   "Disaster and the American Imagination."
                Book Forum 4:204-254.

This article discusses what the author notes to be that "specific American anxiety about death", and the repeated, "unconscious" exposure to potential disaster (through the viewing of disaster films) which acts as a substitute for knowing when one is to die. It attempts to both understand and explain the huge success of disaster entertainment, which is so deeply rooted in the concerns and apprehensions of the American psyche about death. Some specific functions of disaster films are cited, including the ability to act as a safety valve when disaffection or social pressure rises, to appeal to our sense of sensationalism, and also, to offer us a method of "dealing" with horror and death without actually having to experience it. The author also stresses that disaster entertainment serves to blur the lines between fantasy and reality (perhaps its most dangerous function) so that we become effectively anesthetized against any possible sensitivity toward disaster stricken nations and their people. Powell's 7-stage classification of human response to disaster is utilized as part of a discussion detailing the extent to which American disaster fantasy differs from real disaster experience. Finally, the author focuses upon the individual roles of disaster in art and science (past and present), and briefly discusses the utility of a potential merger between these fields to generate new knowledge on disaster.

Cooper, Michael
   1981   "Crisis Public Relations." Public Relations
            Journal November:52-57.

      Crisis management has become a growing concern for both public
relations personnel and business executives. As a result, prompt
crisis public relations has become necessary. Crisis situations cited
in this article emphasize the significance of public relations during
crisis as well as the detrimental effects of poor public relations. In
addition, media reporters express the importance of informed public
relations personnel, and the need to improve cooperation of public
relations people with the media during a crisis in order to retain the
company's reputation with the public. Suggestions for crisis planning
are made emphasizing informed, cooperative public relations and
planning in coordination with outside experts.

Dorman, William A. and Daniel Hirsch
   1988   "The U.S. Media's Slant." Bulletin of the Atomic
            Scientists, 43: 54-56.

A selective content analysis of American newspaper and news magazine
coverage of the Chernobyl accident is presented. It is argued that the
national media developed a theme that a similar nuclear disaster could
not happen in the United States and that the incident was evidence that
the Kremlin could not be trusted to carry out a nuclear arms agreement.
It is suggested that the most disturbing aspect of U.S. press coverage
was the willingness to give currency to speculation about casualties,
and thereby to charge that the Soviets were trying to "cover up" the
true death toll. U.S. government sources and administration spokes-
persons dominated the coverage. Although initial Soviet accounts of
injured, deaths and destruction were later found to be basically
accurate, this information was often buried or lost in the initial
coverage. It is suggested that the pro-nuclear faction in the United
States was successful in influencing press coverage of the accident by
stressing that lack of nuclear plant containment and sophistication on
the part of the Soviet Union led to the accident. The theme of the
superiority of American culture was evident.

Friedman, Barbara
   1987   "The Art of Storytelling. The Structuring and
          Processing of News During Disasters."
          Miscellaneous Report #39. Newark, Delaware:
          Disaster Research Center, University of Delaware)

The goal of this study is to examine the operations of local mass media
organizations during the impact period of disasters. Eight
organizational dimensions related to the structuring and processing of
news are examined. These dimensions include 1) gatekeeping, 2)
decision making, 3) the role of technology, 4) reporter autonomy, 5)
the role of press conferences and press releases, 6) sources, 7) the
role of television, radio and newspaper, 8) the sharing of information.
Normal, non-disaster patterns related to these eight dimensions are

compared with their patterns during the emergency period. Changes from the normal structure and process are noted. An elaborate case study of the local media outlets in one community is constructed. Findings from this case are discussed and placed within the context of research literature. These findings are then compared with data from local media outlets in five other communities. The findings from the case study generally were replicated in the other communities. The study suggests that community and organizational size have a substantial effect upon media operations during disasters.

Friedman, Sharon M.
      1981   "Blueprint for Breakdown: Three Mile Island
                  and the Media Before the Accident."
                  Journal of Communication 31:116-128.

A member of the Public's Right to Information Task Force reviews local media outlets who covered the breakdown at Three Mile Island (TMI). The study reconstructs the history of the Metropolitan Edison Power Company (Met Ed), and reviews TMI media interactions by interviewing staffs and detailing TMI clippings from eight area newspapers. Before and during the accident, public information programs and weekly press releases by the power company were the prime sources of information for both the media and the public. Small staffs' perception of public disinterest in nuclear power plants, and narrow self-interest on the part of Met Ed in broadcast coverage resulted in minimal and misleading broadcast attention to TMI before the accident. Methods of improving media coverage are the use of neutral and varied sources for information, and specialized reporting. Utilities may improve their public information flow by using public relations employees instead of engineers to manage the community relations and nuclear information policies of their companies. Providing adequate information will avoid a repeat of the communications chaos which resulted at TMI during the 1979 breakdown.

Friedman, Sharon M., Carole M. Gorney, and Brenda P. Egolf
      1987   "Reporting on Radiation: A Content Analysis of
                  Chernobyl Coverage." Journal of Communication
                  37: 58-79.

This article presents the findings of a content analysis of U.S. newspaper and television coverage of radiation coverage following the Chernobyl nuclear plant accident. The coverage was evaluated based on the criticisms leveled at the media by the Task Force on the Public's Right to Information of the President's Commission on the Accident at Three Mile Island. The Task Force found that media radiation coverage was "abysmally inadequate," and recommended standards for radiation reporting. The content analysis found that Chernobyl coverage provided insufficient information on radiation and risk, although the coverage was generally appropriate and not sensational. The article concluded by noting that proper radiation risk information is essential for adequate public awareness given the general public fear of nuclear hazards.

Gist, Richard and Stephanie Stolz
    1982   "Mental Health Promotion and the Media:
                Community Response to the Kansas City Hotel
                Disaster." American Psychologist 37:1136-1139.

In 1981, a walkway in the Hyatt Regency Hotel in Kansas City, Missouri
collapsed. There was extensive human loss, including 111 dead and 200
injured. Due to the geographical area involved and the stigma of
mental health aid, coordination and response to the victims was
difficult. The media was used to coordinate the 5 counties, 2 states,
and 7 comprehensive mental health units involved. Also, the media
aided in contacting victims and relaying information about available
resources as well as legitimating psychological reaction.

Goltz, James
    1984   "Are the News Media Responsible for the Disaster
                Myths? A Content Analysis of Emergency Response
                Imagery." International Journal of Mass
                Emergencies and Disasters 2:115-145.

Findings of this extensive, quantitative content analysis of 146
newspaper reports of foreign and domestic earthquakes suggest that the
print media's coverage of domestic earthquakes does not perpetuate
disaster myths and breakdown imagery following a disaster. The author
offers a new classification scheme for actions. The actions are
measured along two dimensions: institutional/emergent actions versus
adaptive/maladaptive actions. The author reports that adaptive-
institutional actions are more frequently reported by the print media
than are maladaptive-emergent actions. The latter would indicate
mythical accounts and social breakdown imagery.

Goulding, Stuart D.
    1939   "Neither Storm, Nor Strife..." Commonwealth
                30:123-125.

After a tidal wave in 1938, Providence, Rhode Island was left
devastated. With its reinstitution, the newspaper aided in all
capacities of post-impact rehabilitation. The newspaper not only
helped in the coordination relief agencies, but also provided
information to the public and requested aid from other areas. In
short, in this disaster the newspaper was a major source for post
impact services.

Green Kenneth E.
    1983   "A Case Study Analysis of the Relationship of
                Local Newspapers and Disaster Related Citizen
                Groups." Preliminary Paper #85. (Newark,
                Delaware: Disaster Research Center, University
                of Delaware).

This study describes the ongoing relationship between local newspapers
and disaster-related, grass roots community organizations. Using

selected case studies, the author seeks to identify characteristic
situations, and tasks of specialized press functions in modern society.
It is noted that the relationship between local newspapers and emergent
citizen groups, reciprocal and interdependent in nature, has not been
adequately discussed by past researchers. This study indicates that
the local newspaper has a significant impact on the disaster-related,
grass roots organizational process. In particular, the press not only
draws a mass audience to the community situation, but alerts the
larger, outside mass media to the scene. The local newspaper also
serves to foster community identity for local residents and relays this
to the outside audience. Emergent citizen groups view the local press
as significant in diffusing information relevant to their cause, and at
the same time, newspaper personnel hold the citizen groups in esteem
for their affecting a community issue. In conclusion, the author
maintains that a positive, enhancing, interdependent relationship
exists between the two entities, and that further research will provide
a more comprehensive picture of this relationship.

Hannigan, John
    1976   "Newspaper Conflict and Cooperation Content
                After Disaster: An Exploratory Analysis."
                Preliminary Paper #27. (Newark, Delaware:
                Disaster Research Center, University of Delaware).

Following a model utilized by previous researchers (Turner, 1967;
Weller, 1971; Dynes and Quarantelli, 1975) which notes the heightened
enactment of solidarity and community cooperation in the disaster-
impacted community, the author undertakes an exploratory, longitudinal
study of a natural disaster and the resulting coverage provided by the
daily newspaper. Undertaken over a six month period, special emphasis
was placed upon noting the different patterns of conflict vs. coopera-
tion in the content. There is some evidence to support Hannigan's
basic thesis that solidarity and shared sentiment increase during the
initial recovery period while community conflict decreases. It is also
suggested, however, that as reconstruction develops in the impacted
community, the community returns to its more divisive, conflictual,
personally "interest-based" state. Finally, the author notes that
further research in this area should use a more comparative base by
increasing the number of communities studied and by considering diverse
community characteristics such as size, municipal structure, and
previous disaster experience.

Hannigan, John and Suzanne Wigert
    1973   "The Newspaper as a Functional Entity and as an
                Indicator After Disaster." Unpublished paper.

This article expands on Weller's notion that a shift from organic to
mechanical solidarity occurs in a disaster-stricken community, and that
in such a situation, newspaper content will respond to this shift. It
is believed that the absence or decline of "conflict and other divisive
content" is indicative of the presence of mechanical solidarity in the
community, while return of such content to pre-disaster levels marks

the presence of organic solidarity. In order to test the utility of
the newspaper as an indicator of the community situation itself, the
author suggests using Moore's classificatory approach of dividing and
analyzing disaster-related content into 13 categories. This operation-
alization procedure will allow researchers to measure a decline in
number, prominence and length of mechanical solidarity items surfacing
in the newspaper over time. The authors recommend that this broad
approach be applied to the newspaper coverage of the Wilkes Barre, PA
1972 Agnes flood. This would enable researchers to compare their
findings with the Wilkes Barre survey, which noted respondents'
opinions of organizations, and their pride or shame regarding community
response during disaster. It is also suggested that findings be
compared with those of the Waco study, as reported by Moore, in order
to determine any difference occurring in focus and duration if the
disaster agent varies.

Harless, James and Galen Rarick
        1974   "The Radio Station and the Natural Disaster."
                    Unpublished paper.

 This study cites natural disaster as one of the most challenging
periods of service for American radio stations, due to the swiftness of
the emergency and the resultant disruption of government, utility
services, transportation facilities, and irreparable property damage
and loss of life. The authors note that radio should act as a
constructive force in dealing with these emergencies. Therefore, they
seek to identify specific public needs and establish how they should be
met during disaster. In order to gain this information, interviews
were conducted (during the spring and summer of 1983) with various
pertinent radio personnel in six cities which experienced natural
disasters (flood, blizzard, tornado). Based on these interviews, the
authors offer several recommendations to maximize radio functioning
during disaster. Some of the most important include: the initiation or
update of a declared, written, practiced policy for natural disaster
coverage; access to (own, lease, borrow) emergency equipment such as
auxiliary power and transmitting materials, as well as emergency
transportation to facilitate personnel function during disaster; and
dedication to the broadcasting of thorough, factual, accurate news and
information about the disaster. The authors also note the importance
of cultivated relationships with auxiliary or special groups who may
provide valuable services and information during a disaster. Finally,
the station news department should make a responsible effort to
"watchdog" the community disaster plan and should continue the
reporting of "hard news" angles (such as detailing the availability and
adequacy of relief programs) even after the disaster has ended.

Hartsough, Don M. and Dennis S. Mileti
        1985   "The Media in Disaster," in J. Laube and
                    S. Murphy, Perspective on Disaster Recovery.
                    (Norwalk, CT: Appleton Century Crofts): 282-294.

This article, looking at studies by others, focuses on the influence of

the mass media on the psychological effects of disasters. The media impact on post disaster and emergency warning situations is examined. The issue of whether the media has positive or negative effects during a disaster is questioned, as is the degree of accuracy in media reporting. The media often create problems by demanding precise information from sources, when such information does not exist, by seeking illegitimate news sources for a story when a legitimate one lacks information, and by reporting incomplete or non-thorough stories in order to meet deadlines. The Three Mile Island (TMI) incident is studied because it became a nationally reported event. The article suggests that the linking of TMI with the controversial issue of nuclear power by media representatives, may have influenced the way in which the event was reported. It concludes by stating that human response to emergency information or warnings is directly affected by the characteristics of the information exchanged. These include the amount of information received by the audience and the extent to which they trust the information source. It is the receiver's perception of the media-controlled risk information which makes each response differ.

Hifez, Albert
    1985   "The Role of the Press and the Medical Community in the Epidemic of `mysterious gas poisoning' in the Jordan West Bank." American Journal of Psychiatry 142:833-837.

From a collective behavior perspective, the author attempts to explain the outbreak of an epidemic among school-age girls in the Jordan West Bank. It is argued that whether applying contagion theory, convergence theory, or emergent norm theory, a communication network is fundamental and necessary in explaining the medical community as key communication networks that were active in the spread of the outbreak. Through a content analysis of three Israeli newspapers, the author argues that the use of certain terms such as "suddenly" and "attack", denote an unexplained external force. In addition, it is argued that reporters covered the incident in a biased fashion through the use of value laden phrases and selective reporting.

Hiroi, Osamu, Shunji Mikami, and Kakuko Miyata.
    1985   "A Study of Mass Media Reporting in Emergencies." International Journal of Mass Emergencies and Disasters 3:21-49.

This report examines the media operations during warning or disaster situations in Japan. It was found that the broadcast media serves as the primary source of warning. Yet, surveys show that the warnings prove to be too late and ineffective in the sense that the public does not hear or react to the warnings. Certain organizational factors facilitate problems in reporting during disasters. Inability to mobilize resources from within or outside the organization and excessive dependence on a reliable source, such as the police, lead to inadequate and inaccurate reporting. Findings also indicate that the inaccuracy of content in crisis reporting is a result of journalistic policies inherent throughout Japan as well as the rest of the world.

The existence of deadlines create quick reporting rather than accurate reporting, and there are popular images of disasters which tend to overshadow the actual facts. Overdramatization of behavior, concentration on the most severe incidents, and analyses. The study also discusses gatekeeping which tends to be neglected. Press reports given without reference to sources and individuals are both examples of the changes in Japanese mass media reporting during disaster periods.

Hirose, Hirotada
    1986   "The Psychological Impact of the Tokai Earthquake
                  Predictions: Individuals' Responses and the Mass
                  Media's Coverage." Japanese Psychological Research,
                  28:64-76.

Mass media reporting of long term predictions of impending earthquakes, as practiced in earthquake prone regions, and the psychological and behavioral effects of such reporting on the residents of such areas is examined. Focusing on the Tokai district of Japan, a content analysis of earthquake prediction reports in three major Japanese newspapers and two television stations is undertaken. The effects of these reports on residents are identified through a four wave panel survey of 1,300 original respondents conducted between 1980 and 1983. Attitudes about earthquake prediction and preparedness and the effectiveness of relevant governmental policy are discussed.

Hirschburg, Peter and Don Dillman.
    1984   "An Empirical Test of the Dependency Theory
                  of Media-Audience-Society Relations: Response
                  to the Eruption of Mount St. Helens." Unpublished
                  paper.

It is suggested that most disasters occur within some personal, conventional frame of reference: despite sudden impact, most persons understand such events as tornadoes, earthquakes, airline crashes, and toxic chemical spills. Such events can be expected and visualized under certain conditions broadly understood by the population. The 1980 eruption of the Mount St. Helens volcano offered a unique situation in which the public had no forewarning, little understanding (it was not the type of volcanic eruption with which most people were familiar), and much apparent uncertainty concerning the eruption and subsequent information gathering. A telephone survey was conducted in eastern Washington state to find out what sources people used for information following the eruption. It was concluded that all forms of information seeking increases following ambiguous events. Dependency theory explains and predicts the general trend in media use in such events.

Hogan, Warren L. (ed.)
    1961   Hurricane Carla: A Tribute to the News Media
                  (Houston: Leaman-Hogan Company.)

The book was developed as a "tribute" to the media (newspaper,

television, and radio) that covered the events surrounding Hurricane
Carla in September, 1961. In the words of the author, it is a
"complete word and picture story" of the actions taken by the media.
The material for this book is taken directly from the articles and
pictures used in news stories, with overviews of the actions taken by
staff members (editors, news directors, and reporters) of the various
media organizations during their response to the event. The numerous
stories include factual reports about the hurricane, personal accounts,
damage reports, reports on evacuation centers, pictorial depictions of
damage caused by the storm, and stories relating the efforts of the
media itself. As the editor of the book notes, "the coverage of
Hurricane Carla (by newspaper, radio, and television) was among the
most impressive in the history of mass communications."

Jensen, Carl
    1972   "The Use and Abuse of Media in the Aftermath of
                a Disaster: An Analysis of the 1970 Southern Cali-
                fornia Fires." Master's Thesis (Santa Barbara,
                California: Department of Sociology, University of
                California).

Explored in this study is the success of the print media in
disseminating news of benefits for victims in the aftermath of a
disaster. Victim and non-victim media attitudes after a 1970 fire in
Southern California are contrasted and analyzed. A content analysis of
three newspapers was performed, and a survey and follow-up were done by
mail questionnaires. Most newspaper articles were found to be straight
news coverage, with back-up analysis being the second highest category.
Only eight percent of the articles gave information on victim
assistance and most of these were run in the first six days following
the disaster. The questionnaire determined that the media was not a
"first source" of information on assistance to victims. The study
concludes that the media was used by agencies and organizations to
enhance their own public image, and was used as a conduit to assure the
general public of the benign nature of society. In addition to
exaggerating disaster benefits that were available, the media practiced
social control by propaganda - it recounted massive forms of assistance
being rushed to the victims but did not report on the inadequacies or
inequities of the assistance programs.

Joyce, Charles C.
    1972   "The Status of Radio Warning Systems in the
                United States," Information Bulletin, Defense
                Civil Preparedness Agency, Number 264, May 24, 1972.

This article notes the advances that have been made in development of
emergency broadcast systems (EBS) over the past several decades. It
also elaborates the on-going work with respect to improving the status
of emergency broadcasting and some of the problems that are confronted.
The article elaborates the manner in which EBS came about. Note is
made of the first attempts (such as sirens) and the limited effects
these systems had. It then goes on the indicate the changes that have

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occurred over the years in EBS. Systems include CONELRAD (replaced by EBS), NEAR (National Emergency Alarm Repeater), and the current (at the time of the article) DIDS (decision information distribution system). Each of the systems described has, as suggested by the article, been an attempt to enhance response time to emergencies. The article summarizes the goals that have been established for EBS, some of the problems that arise in developing and EBS system, and the governmental actions that have been taken to insure the adequate functioning of the system.

Konrad, Evelyn
    1972   "Corinthian Points Up New Role and Responsibilities for Television in National and Regional Emergencies." Public Relations. (New York, N.Y.: Evelyn Konrad)

This trio of press releases from the President of Corinthian Broadcasting Corporation, C. W. Petersmeyer, describes the news coverage of one of its affiliates, KHOU-TV, Houston, during the impact of Hurricane Carla. The results of a survey of mailed questionnaires are also analyzed. The station moved its cameras and news director into the headquarters of the US Weather Bureau and broadcast live news reports from there during the course of the storm. Three weeks after the disaster, questionnaires were distributed to test public reactions to the coverage. Approximately one-quarter of the sample were public officials from the local area. Over 75% of the respondents were able to differentiate between KHOU coverage and other news sources, and many were motivated to switch from other media to television because of the TV station's exclusive tie-up with the US Weather Bureau. Of the respondents affected by the hurricane, 74 percent reported that information broadcast on the storm by KHOU helped them to determine what course of action to take to insure their own safety.

Kreps, Gary A.
    1980   "Research Needs and Policy Issues on Mass Media Disaster Reporting," in Disasters and the Mass Media (Washington D.C.: National Academy of Sciences) 35-74.

This article presents a broad scale review of the art in the study of mass media reporting in disasters. After discussing the conceptual difficulties in defining "disaster," the author notes that the mass media have been primarily interested in the immediate post impact period. Furthermore, it is observed that there is a long standing tradition among disaster researchers that the media are deficient in disaster reporting. The media have been accused of inaccurately reporting disaster impacts, of giving undue emphasis to the sudden and dramatic, and of conveying false images about disaster behavior. Although research is presented to support this position, it is concluded that the issue still awaits empirical verification. On the other hand, it is also proposed that the mass media could be a constructive force in mitigating disaster, through their activities in

warning and public education. In light of these contradictory
expectations, a number of research questions and policy implications
are posed. The result is a rich presentation of research issues and
their impact upon public policy. In light of this research agenda, an
assessment is made of the "state of the art." Discussions concern 1)
what are the key patterns of mass media activity in reporting disaster
predictions, warnings, impacts, and post-disaster response, 2) what is
the level of factual accuracy in reporting on these disaster processes,
3) what is the nature of the mass media's public education activities
that are aimed at mitigating the effects of disaster, 4) how are the
various types and levels of mass media interrelated, and 5) how do the
mass media relate to public and private disaster-relief agencies on
disaster, 6) what are the audience perceptions of media content on
disasters, and 7) to what extent do the activities of the mass media
lead to adaptive or maladaptive behavior on the part of the audience?
These areas are suggested as a basis for a concerted research agenda
for the future.

Kueneman, Rodney and Joseph E. Wright
    1976   "News Policies of Broadcast Stations for Civil
                Disturbances and Disasters." Journalism
                Quarterly 53:670-677.

The focus of this article is on media operational practices in the
coverage of natural disasters and civil disturbances. The study's
concern is with the differences and similarities between the coverage
of these two types of events. Seventy two radio and television
stations in 12 U.S. cities were studied. The sample represented cities
which had experienced civil disturbances only, natural disasters only,
both types of events, or neither. Variables examined included the
media organization's view of the excitability of the audience, report
checking procedures and planning for the events. The findings indicate
that there are substantial differences between the observed practices
for the coverage of these events.

Lang, Gladys Engel and Kurt Lane
    1980   "Newspaper and TV Archives: Some Thoughts
                About Research on Disaster News," in Disasters and
                the Mass Media (Washington, D.C.: National
                Academy of Sciences) 269-280.

Analyses are made of media reports from 179 disasters in order to
clarify theoretical notions. The disaster reports are obtained from
Deadline Disaster: A Newspaper History, by Michael Wynn Jones, and
Disasters by Arleen Keylen and Gene Brown. Various findings are
reported from observation of these reports. There seems to be an
increase in the number of events treated as disasters, as well as an
increase in the number of disasters given front page coverage. Also,
suggestions are made for research on the media reporting in disasters.
The process of disaster news gathering at different levels of media and
all stages of disasters, the type of media reporting disasters, and the
information and message presented in disaster reporting all need to be

explored. Research in these areas will aid in educating the public on potential hazards and appropriate response.

Larson, James F.
　　　1980　　　"A Review of the State of the Art in Mass
　　　　　　　　　Media Disaster Reporting," in Disasters and the
　　　　　　　　　Mass Media (Washington, D.C.: National Academy
　　　　　　　　　of Sciences) 75-126.

This paper provides a summarized review of the mass communication literature in order to assess the utility of disaster information generated by the mass media. A second purpose of the study is to note further relevant research areas regarding mass media response to disaster. The general characteristics of various news media (TV, radio, newspaper, news magazines, and wire services) are detailed in an effort to establish important similarities and differences regarding disaster information. Discussion includes studies of the media and information control, studies of media content and mass media audiences, and studies of the media's effects in disaster. Media information campaigns about disaster are also noted.

Ledingham, John and Lynne Massel-Walters
　　　1984　　　"Written on the Wind: The Media and Hurricane Alicia."
　　　　　　　　　Newspaper Research Journal 6:50-58.

A telephone survey consisting of 172 interviews was conducted immediately after (10-18 days) Hurricane Alicia in Galveston, Texas. The interviews were particularly concerned with issues of warning, perceived credibility of sources and factors involved in people's decisions to evacuate or not. The general findings of the study suggest that the media play a major role in warning the public and in their decision to evacuate. In addition, the study suggests that personal experience and interpersonal communication also play a primary role.

Lindy, J. and J. Lindy
　　　1984　　　"Observations on the Media and Disaster
　　　　　　　　　Recovery Period," in J. Laube and S. Murphy
　　　　　　　　　Perspectives on Disaster Recovery. (Norwalk,
　　　　　　　　　Conn: Appleton Century Crofts) 295-303.

The article discusses, in general terms, the positive and negative impacts of the media and their psychological effects on survivors during a disaster. The article deals with each of the major phases and the functions that the media has in relationship to the mental health of the survivors. Through the use of examples, the authors come to the conclusion that the media can be effective in helping certain mental health activities with public service announcements and outreach. The health profession should develop alliances with the media for a better recovery process.

Lombardi, Marco
    1989   "Management of Information in Mass Emergencies,
                An Event: Chernobyl," in E. L. Quarantelli and
                Carlo Pelanda (eds.) Proceedings of the Italy-
                United States Seminar, pp. 286-295. Book and
                Monograph Series #22. (Newark, Delaware: Disaster
                Research Center, University of Delaware).

A content analysis was made of three Italian newspaper reportings of
the Chernobyl nuclear disaster. The analysis was primarily in terms of
two dimensions: the topic or subjects discussed (e.g., consequences
for other countries, crisis management, domestic politics) and sources
of the published report. Preliminary statistical data from the study
are presented.

Mazur, Allan
    1984   "The Journalists and Technology: Reporting
                About Love Canal and Three Mile Island."
                Minerva, 22:45-66.

This article focuses on the mass media's coverage of two technical
accidents: Three Mile Island and Love Canal. By exploring the
sequence of events leading to the establishment of these two incidents
as major "media events," the article demonstrates how the quantity and
quality of news coverage can greatly influence the significance of
these events. Also, the article explains why these two incidents in
particular received such heightened media attention whereas events of
even more seriousness involving more injuries and deaths were sometimes
totally ignored. An outline is given of how the media actually shaped
the development and aftermath of both incidents simply by reporting
them. For instance, the amount of "reassuring" versus "alarming"
stories was examined. In turn, the effect on public opinion toward
both the nuclear power industry and the chemical industry in light of
the quality of the news reported was reviewed. Finally, the article
reviewed the findings of a government commission established to
determine the credibility of the journalistic coverage of these two
events. Some suggestions for future methods of reducing bias related
to media coverage of certain events was given. For instance,
journalists should take a more passive and moderate role in their
reporting of certain stories to eliminate bias, inaccuracy, and
ultimately, some of the influence that journalists have on events they
report.

McKay, Jennifer
    1983   "Newspaper Reporting of Bushfire Disaster in
                Southeastern Australia - Ash Wednesday 1983."
                Disasters 7:283-289.

Newspaper coverage of an Australian bushfire is studied to determine
the role of public information in promoting disaster prevention and
mitigation. Text space and prominence of three major newspapers'
articles were compared to the content of the disaster reports by the

use of content analysis. Bushfire related reports and photos were expressed as a proportion of front page text space to total newspaper space, before and after the disaster. The newspaper reports were found to closely parallel the development of the event itself, with little warning information and heavy disaster news for two days after impact. A significant amount of the coverage focused on the allocation of relief funds and scapegoat stories. The newspaper did not provide the public with information to help them reduce the personal impact of any future fire. A solution to this problem might be to provide response information to the media following a disaster in order to increase the prominence of this issue.

McKay, Jennifer M.
  1984 "Community Response to Hazard Information."
       Disasters 8:118-123.

The focus of this article is a study conducted in a Southern Australian community on the impact of flood hazard information on public acceptance of a selected field mitigation strategy. Media content concerning hazards or recent disasters is assessed as an influence upon community response and subsequent hazard warning campaigns. This media influence was measured against more direct means of hazard information to see which source of information influenced individuals' opinions of flood reduction strategy more. Finally, the article reviews the positive and negative results of media based hazard information and suggests methods to increase the positive impact of hazard information from media and more direct sources on potentially affected communities, thereby increasing the communities' willingness to seek relevant hazard information.

No Author
  1985 The Media Institute, Chemical Risks: Fears,
       Facts, and the Media. (Washington, D.C.: The
       Media Institute.)

Mass media coverage of manmade environmental health risks is examined. Questions include: How balanced are the media in their coverage of chemical hazards? Are the mass media sensationalistic or scientific in their approach to the stories about chemical risks? Which medium is more temperate? Which side of the debate is taken by the media? A content analysis of three major newspapers and the three television networks was undertaken; an audience survey was performed; and a Q-sort analysis of relevant headlines was done. The main topics of study included media coverage of the use of the pesticide EDB; the case of topsoil poisoning by dioxin at Times Beach, Missouri, in 1983-84; and the derailment of a train carrying various hazardous chemicals in Livingston, Louisiana in 1982. Included is an overview of the 1984 Bhopal, India Dow Chemical disaster. It is concluded that in most cases the media overstate in their reports the real health hazard to humans, with government sources overrepresented and industry experts underrepresented in the reporting.

No Author
    1984   Media Relations in Emergency. (Emmitsburg, Maryland:
                Senior Executive Policy Center, Federal Emergency
                Management Agency).

A general discussion of how to handle the mass media in disasters.
Purpose is to inform, advise and alert emergency managers, public
information officials, and mass media personnel as to the different
perspectives and common problems of one another during a disaster.

Molotch, Harvey and Marilyn Lester
    1975   "Accidental News: The Great Oil Spill."
                American Journal of Sociology 81:235-260.

A case study of the Santa Barbara Oil Spill of January 1969 is the
focus of this research. The principle concern of the study was the
media coverage of the spill, and of the consequent political conflict
between the large oil companies and the Federal executive branch of the
government. Findings revealed that both local and non-local papers
focused more on the oil companies than on the local groups. In
addition, the study notes that there is a strong positive correlation
between the amount of coverage and temporal propinquity. Several
hypotheses are offered as explanations for these two major findings.

Moore, Harry Estill
    1958   "The Newspaper Tells the Story." Tornadoes Over Texas:
                A Study of Waco and San Angelo in Disaster. (Austin:
                University of Texas Press) 194-205.

In this chapter, a detailed study of a newspaper's treatment of
tornadoes was done by examining space and content of disaster coverage
in the Waco Times-Herald. Content of the newspaper was divided into
news or reading material, photographs, or advertisements. Stories were
also classified as local or non-local as well as disaster-related or
not. Content analyses were conducted over 13 months from May 1, 1953
to June 1, 1954. The following conclusions were made: 1) diminution
of space devoted to disaster related news was rapid and drastic but did
not entirely disappear by the end of a year; 2) stories and photographs
of the disaster were more often of events activities of high emotional
appeal than of events representing actual activities; 3) increase in
circulation was equal in the city as well as outside, indicating that
the paper did not serve a highly specialized local function.

Moore, Harry E. and Fred Crawford
    1954   Mass Communication Agencies in a Disaster
                Situation. Appendix in Waco-San Angelo
                Disaster Study Report on Second Year's Work.
                (Austin, Texas: Department of Sociology,
                University of Texas).

A discussion of the emergency time activities of commercial radio,
non-commercial radio, telephone and telegraph agencies, the postal

service and one newspaper in the tornado disasters. Also includes an analysis of newspaper advertisements and letters to the editor after the disaster.

Morain, Claudia
1983   "Aftershocks at Mount St. Helens," Columbia
             Journalism Review 22:6, 9, 13.

This article takes note of the role played by the mass media relative to the eruption of Mount St. Helens. The work goes on to indicate that the news media could have played a more central part in distribution of information (in particular, the most hazardous area immediately around the volcano) prior to the eruption. Attention is paid to some of the issues that should have been addressed by the media (and others) prior to the eruption. The most direct suggestion of the article is that reporters for the media must not take for granted relevant issues and assume that they have been addressed by emergency officials adequately.

Morentz, James
1980   "Communication in the Sahel Drought: Comparing
             the Mass Media With Other Channels of International
             Communication," in Disasters and the Mass Media.
             (Washington D.C.: National Academy of Science) 158-186.

Issues involving slow onset disasters and the media are examined in this case study of the Sahel Drought. Interviews with persons in drought stricken community and a content analysis of 750 wire service reports, special and mass media articles, and press releases were undertaken between late 1974 and early 1975. Specifically, the study examined factors which contributed to the one year delay in mass media coverage of the drought.

Morentz, James W., Jr.
1976   "The Making of an International Event:
             Communication and the Drought in West Africa."
             Unpublished doctoral dissertation. Philadelphia,
             PA: University of Pennsylvania.

This dissertation examines the Sahel Drought in terms of mass communication and its role in defining the drought as an international disaster. Morentz uses Anthony Downs' "issue attention pattern" to analyze the Sahel Drought. This pattern is divided into five stages, the pre-problem stage, the alarmed discovery and euphoric enthusiasm stage, the stage realizing the cost of significant progress, the decline of public interest, and the post-problem stage. Using this criterion, the study examines the drought from the beginning and traces its progression through these stages, focusing on where both the involved governments and the media failed and finally succeeded in making the drought an issue of widespread public attention. With regard to the media specifically, it is stated that the media served (after some time) to heighten the "prestige" of the prolonged disaster and thus brought about changes in the attention and response to the

drought. This point is documented by itemizing the media events and
showing their effects on the governmental perception and on the extent
to which the amount of aid for the Sahelians increased after headline
coverage.

National Academy of Sciences - National Research Council
     1980   Disasters and the Mass Media. (Washington, D.C.:
                  National Academy of Sciences).

This book is a collection of seventeen papers presented at a workshop
sponsored by the Committee on Disasters and the Mass Media of the
Commission of Sociotechnical Systems of the National Research Council.
The anthology includes two major reviews of the literature. Kreps
reviews the research needs and policy issues on mass media reporting of
disasters, and Larson examines the literature on mass communication
studies. Other papers cover international perspectives, national and
local perspectives, disaster warning, relief, media disaster reporting,
and research needs and applications. The work represents the most
comprehensive collection of articles ever compiled on the subject. (A
number of these are separately annotated under the author's name
elsewhere in this bibliography).

National Association of Broadcasters
     1965   Where Was Radio When The Lights Went Out.
                  (Washington, D.C.: National Association of
                  Broadcasters).

This report documents radio coverage and listening patterns during a
blackout along the east coast. A survey of 494 people was undertaken
in the New York City metropolitan area to ascertain their mass media
exposure and usage in the blackout (e.g., over 75% of those interviewed
listened to the radio during the blackout, 96% said that radio coverage
was good.) The purpose of the report is to assess the role of radio
during the blackout and to provide guidelines for future radio
programming during an emergency. The study finds that the major means
of preventing anxiety was the efforts of radio to use a relaxed manner
and congenial camaraderie and to supply the public with information
about the blackout.

Needham, R. D. and J. G. Nelson
     1977   "Newspaper Response to Flood and Erosion
                  on the North Lake Erie Shore," Environmental
                  Management, 1:521-540.

This study analyzes newspaper coverage of flooding and erosion in the
Great Lake's region during the time periods 1952 to 1953, and 1972 to
1974. The authors attempt to describe "hazard news coverage" patterns
over time and to interpret the findings from a resource management
perspective. A content analysis of seven newspapers was undertaken.
These papers were analyzed using the cosmopolite-localite model of
Rogers and Shoemaker (1971) and the 1972 work of Dynes, Quarantelli,
and Kreps on the role of mass media in disasters. Two basic content

directional themes were used: 1) shoreline processes which consist of lake level variations, flooding, erosion, and changing shoreline land use; and 2) hazard adjustments which have lake level adjustments, flooding adjustments, erosion adjustments, and land use adjustment as subthemes. The authors summarize that newspaper coverage through time is highly correlated with the rise and fall in lake levels and high risk or actual impact periods. Further, it is concluded that newspaper content during these periods is of a sensationalist orientation.

Nimmo, Dan
  1984   "TV Network News Coverage of Three Mile Island:
             Reporting Disasters as Technological Fables."
             International Journal of Mass Emergencies and
             Disasters 2:116-143.

The network news coverage of the Three Mile Island incident is examined from technical and dramaturgical perspectives. Quantitative and qualitative analyses are performed on nightly televised coverage through content analysis of videotapes and dramatistic analysis of the network coverage as technological fables. ABC, NBC, and CBS were found to give different emphasis to the technical aspects of news gathering modes, sources, and use of visual elements during the TMI coverage. In addition, each network appeared to establish a different fable mode. CBS used a tale of technological danger woven through broadcasts characterized by "nightly warning, nightly explanation;" while ABC used a fable of threatening, nightmarish reality with which elites could not cope; and NBC's coverage was a fable of demystification through a calm, but "Great" debate on the issue. In sum, no single formula is available for the packaged news which appears on TV, but it seems plausible to regard news presentation as a process of story telling—specifically, the weaving of fables.

Nimmo, Dan and James E. Combs
  1985   Nightly Horrors: Crisis Coverage in Television
             Network News. (Knoxville, Tennessee: University
             of Tennessee Press).

Through the examination of case studies of network news coverage of crises, the authors argue that each of the three major networks create separate and different realities regarding major crises. The cases examined include: The People's Temple mass suicide, the Three Mile Island nuclear power plant accident, the crash of American Airlines Flight 191, Mount St. Helen's volcanic eruption, the Iranian hostage situation, and the Tylenol poisonings. Through the use of quantitative and qualitative (dramaturgical) analysis, it is argued that ABC coverage of crises is primarily a human interest and frightening one, or "good grief" journalism. NBC's approach has an overtone of resignation. Crises are reported as never unique. ". . .a given crisis is but a crisis, not the end of the world." (p. 184) While CBS has its own approach which is not to threaten or frighten viewers, but to help them cope skillfully with such events.

Okabe, Keizo and E. L. Quarantelli (eds)
forthcoming   Mass-Media Reporting of Disasters in Japan
               and the United States (tentative title)

A report on a collaborative study between American and Japanese
researchers on the operation of the mass media in two disasters each in
both of the countries. Newspaper, radio and television reporting was
examined during the emergency time period from data gathered through
intensive interviewing and by way of content analyses. In general, far
more similarities than differences were found; this is partly
attributed to the universalistic characteristics of the mass
communication institution which makes it less specific for particular
societies. Among the similarities were the treating of disasters as
major news stories, in media utilization and exposure at the emergency
time, lack of initial accurate information by reporters about disaster
impacts, prevalence of the "command post point of view" among mass
communication organizations, diminution of the gatekeeping process,
emergence of personalized media use at the height of the emergency,
little specific disaster planning by mass media organizations, problems
encountered in the coverage of stories, and typical alterations and
changes in mass media structures and processes.

Otway, Harry, P. Hasstrup, W. Cannell, G. Gianitsopoulos, and M.
Paruccini
        1988   "Risk Communication in Europe after Chernobyl: A
                  Media Analysis of Seven Countries." Industrial
                  Crisis Quarterly 2: 3-15.

To identify common communication problems an examination was made of
mass media coverage in seven European of the Chernobyl nuclear plant
disaster. The media was found to have been reasonably good in
reporting information provided by official sources, although there were
difficulties in the depiction of technical topics such as radiation
exposure and effects. There was some confusion, and it affected
communications credibility, but the media seemed to be reflecting
confusion in official circles and in the scientific community rather
than creating it. Typical problems are discussed and suggestions are
made for improving communications and crisis management.

Palacios, Agustin, Jose Cuele, Jose Camacho, Famon Cleriga, Pablo
Cuevas, Jamime Ayala, and Linda Cussoff
        1986   "The Traumatic Effect of Mass Communication in the
                  Mexico City Earthquake: Crisis Intervention and
                  Preventive Measures." International Review of
                  Psycho-Analysis 13:279-293.

The authors argue that the psychological effects resulting from the
mass media's coverage of the Mexican earthquake are widespread and
extremely detrimental. They argue that there has never been a disaster
of such magnitude which was covered as extensively by the mass media.
The nature of the dramatic coverage by both the print and broadcast
media resulted in severe traumatic psychological disorders. However,

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through an understanding of this relationship between mass media coverage and psychological trauma, the authors have been able to create a schedule of therapy to help victims deal with the experience and its effects. The treatments primarily center around group psychoanalysis.

Paz, Denise H.
    1980   "Information Processing Under Uncertainty: Mass Media
                and Interpersonal Communication Effects on Response to
                Near Predictions of Earthquakes." Unpublished doctoral
                dissertation. Los Angeles, California: University of
                California.

This study took place in Southern California as a result of the "Uplift" in 1976 which aroused common fear of a possible earthquake. The dissertation examines the different patterns of communication and dissemination of information concerning near predictions of earth-quakes. Paz looks at the public response to the predictions. These responses include the public's interpretation of disaster-related information, how people seek confirmation, and what actions are taken once the information is confirmed. People usually hear about earth-quake danger and safety through the mass media or through informal discussion. In examining the credibility of announcements, Paz concludes that the media's ability to construct reality is shown by the community's widespread feeling that an earthquake is coming. This was taken a step further by correlating people with various "earthquake orientations" and their differences in perceptions and use of earth-quake information. Use of the media in conjunction with interpersonal discussion was found to be the most effective way to arouse public awareness. The social circles to which people belong motivate them to seek more information. Paz suggests that there is a hierarchy of information in these circles which consists of opinion leaders and their associates. The experts in the circles are the most likely to legitimate personal preparedness. These experts also serve as models of imitation. Thus, any attempt to prepare for an earthquake is more likely to occur through interpersonal discussion than through the mass media, yet, both are necessary for it to happen.

Perry, Ronald W. and Alvin H. Mushkatel
    1986   Minority Citizens in Disasters. (Athens, Georgia:
                University of Georgia Press).

In their analysis of minority citizens in disasters, the authors focus on three specific groups (whites, blacks, Mexican Americans) involved in three different types of communities experiencing three different kinds of disaster threats. The authors provide summaries of findings regarding different aspects of ethnic group response to disaster across all three disaster events. The aspects analyzed include the first warning source employed by the various ethnic groups, the appraisal of the reliability of mass media as a first source of warning, the sources used for confirmation of warning messages, and sources relied on for day-to-day hazard information. From the findings, the authors note the existence of certain patterns of sources chosen across ethnic groups

and across community and disaster types. The sources focused on include mass media (newspaper, radio, television, and magazine), relatives and friends, and authorities (local political officials and organizational speakers).

Phillips, Brenda
    1986   "The Media in Disaster Threat Situations: Some Possible Relationships Between Mass Media Reporting and Voluntarism." International Journal of Mass Emergencies and Disasters 4:7-26.

The role of the untrained emergency volunteer in large-scale emergencies, and, in particular, their depiction in the mass media, is examined. The study focuses on volunteerism during a flood response in a midwestern town in 1982. Interviews were conducted with 30 individuals who had been involved in the response, and an analysis of documents was undertaken (i.e., newspaper content analysis at post-event periods). It is concluded that the media overstated the scope of volunteer involvement when certain social categories were involved (e.g., student volunteers). This emphasis led to conflict in the community. It is further noted that certain social categories were underrepresented in media depictions of the volunteer effort (e.g., minorities).

Ploughman, Penelope D.
    1984   The Creation of Newsworthy Events: An Analysis of Newspaper Coverage of the Man-Made Disaster at Love Canal. Unpublished doctoral dissertation. (Buffalo, NY: Department of Sociology, State University of New York).

A content analysis of local, regional, and national newspaper articles (appearing August 2, 1978 - October 2, 1980 in the Niagara Falls Gazette, the Buffalo News, and the New York Times, respectively) was undertaken. Stories and editorials which were found to deal with the major toxicological incident in the Love Canal area of New York state (USA) were selected for analysis. Although local papers covered the story for some two years prior to national exposure, it was the "New York Times" involvement that established Love Canal as a national event. Newspapers were found to play the roles of "initiator, definer, diffuser, and accelerator of the disaster conflict." The mass media was also seen as conferring or withholding status or legitimacy upon various parties involved in this "man-made" disaster-conflict. Stories of interest were found to appear in newspaper issues at various intervals throughout the 26 month study period, suggesting that the media does not have such a short term attention-span as previous scholars would seem to suggest. A differential distribution of editorial favorability was found among newsmakers. Over 88% of the resident's total coverage in editorials was deemed "positive," contrasted with 36% of the government's coverage, and 26% of the business newsmakers' editorial coverage. It was concluded that

newspaper coverage did much to raise overall consciousness regarding the dangers of the careless disposal of hazardous wastes and environmental pollution in general.

Quarantelli, E.L.
    1971   "Changes in Ohio Radio Station Policies and Operations in Reporting Local Disturbances." _Journal of Broadcasting_ 15:287-292.

Do civil disturbances result in policy and operational changes in news reporting? This question is studied through a systematic study of 42 radio stations in eight Ohio cities of 100,000 + population. All the communities, which were of various size, had prior experience with civil disturbances. Interviews with news directors or station managers produced the following findings: (1) Policy changes between 1965 and 1969 were neither widespread nor intensive, with only a quarter of the sampled stations evolving a clear policy for the reporting of local disturbances. This was mostly due to internal reluctance to produce formal guidelines which were seen as handicaps to reporters; and (2) actual civil disturbance broadcasts are frequently handled with more caution and sensitivity than other types of news by minimizing the extensiveness of the disturbance, heavy use of official sources, and a "softening" of the content of what is reported. However, despite feelings that civil disturbance stories ought to be handled differently, when such stories became available, they were treated in the same fashion as other important news, i.e. it was broadcast as soon as possible.

Quarantelli, E. L.
    1980   "Some Research Emphases for Studies on Mass Communication Systems and Disasters," in _Disasters and the Mass Media_ (Washington, D.C.: National Academy of Sciences) 293-299.

In an effort to fill the theoretical gap in the area of mass communication, some suggestions are offered in terms of a working, theoretical model. Also, some specific research questions are presented to direct future studies. Explored are the five dimensions of the model— communicators, content, audience, feedback, and consequences. The communicators are groups, usually complex organizations, whose disaster reports are often collectively produced and distributed. The content is the manifest and latent information produced by the communicators and used by the audiences. The critical issue in disaster research is this perceived disaster content. The audiences are active, socially oriented people who have different access and responses to the communicators and content. They give feed-back to mass communicators in different ways and at different levels. Initial consequences from such a conceptual approach include the disproving of certain conventional notions, as well as a clearer understanding of the system, because the approach is at the group, rather than the individual, level. Research in the public policy area is recommended, along with studies to determine whether efforts to improve the media's handling of

disasters should concentrate on news reporting, entertainment,
education or a mixture of these.

Quarantelli, E. L.
    1980   "The Study of Disaster Movies: Research Problems,
               Findings, and Implications." Preliminary Paper #64.
               (Newark, Delaware: Disaster Research Center, University
               of Delaware).

This paper presents: (1) a detailed discussion of the problems and
opportunities involved in social science research on disaster films,
and (2) the substantive observations and impressions derived from a
study of three dozen films. The importance of popular culture in
affecting beliefs is generally discussed, as well as the possible
specific role of movies in shaping conceptions and ideas held by the
public about the physical and human features of disasters. A number of
methodological issues are addressed in detail: how disaster films
might be conceptualized, how a master list of such films might be
developed, including the difficulty of using movie reviews for such
purposes, the sampling problems in using non-current films, and the
kinds of content analyses which might be used with film rather than
print content. A framework developed to code the visual content
involved a categorization into social and physical features of
disasters cross cut by a time frame of pre-, trans- and post-impact.
This allowed a comparison to be made with the characteristics of
disasters as reported in the social science literature. The general
conclusion was that disaster films selectively reflect disaster
reality, totally ignoring certain aspects, depicting disaster myths and
misconceptions, as well as at times presenting that which research has
shown actually occurs in disasters. The article concludes with a
detailed discussion of future work needed ranging from conceptual
clarifications of what is a disaster film to ascertaining the factors
involved in the production of disaster movies.

Quarantelli, E. L.
    1981   "The Command Post Point of View in Local Mass
               Communications Systems." International Journal
               of Communications Research 7:57-73.

To what extent does local mass media reporting mirror or reflect what
actually occurs at the local community level? This question was
examined in a series of field studies of civil disturbances and natural
and technological disasters undertaken by the Disaster Research
Center.It was found that the American local mass media outlets show a
distinctive and selective pattern in their reporting of local community
emergencies of all kinds. In particular, reporting is primarily from
the command post point of view, i.e., the situation as seen by the
formal social control agencies in the community, particularly the law
enforcement organizations. Analyses indicate that the basis for this
perspective lies in the sociocultural structure of local news gathering
and distribution in the United States. It is suggested that while
there are exceptions, the command post perspective is pervasive in the

reporting of most kinds of crises or mass emergencies. Some
implications of this perspective are pointed out.

Quarantelli, E. L.
    1985   Realities and Mythologies in Disaster Films.
              Communications: The European Journal of Communication
              11:31-44.

A content analysis was made of three dozen English language films with
substantial footage on disaster phenomena. A comparison was made
between movie depictions of the physical and social aspects of pre-,
trans-, and post-impact characteristics of disasters and what has been
reported by the social and behavioral science research on disasters.
Overall, films devote considerably more time to the pre-impact period
than they do the two other time phases. Along some lines, disaster
films simply do not mirror disaster reality; for example, they almost
totally ignore disaster planning, emergency response management and
recovery activities. Along other lines, movies perpetuate disaster
mythologies (e.g., the prevalence of panic and looting). Along a few
lines, however, films do capture disaster reality, e.g., often showing
victims rising to the demands of the emergency period, a correct
portrayal also established by disaster research.

Ritz, William R.
    1980   "A Case Study of Newspaper Disaster Coverage: The Big
              Thompson Canyon Flood," in Disasters and the Mass Media
              (Washington, D.C.: National Academy of Sciences)
              195-201.

This paper provides a case study of the Denver Bureau Associated Press
newspaper coverage of the Big Thompson Canyon Flood in the summer of
1976. More specifically, it details the Denver Bureau's attempts to
gain and provide information to the public during the flood, and it
particularly details the various problems faced by the press as a
result of the disaster. The author discusses the solutions used to
combat these problems and notes the importance of coordinative effort
among staff and between outside authorities in the effective and
accurate reporting of disaster situations.

Rogers, Everett M., and Rahul S. Sood
    1980   "Mass Media Communication and Disasters: A Content
              Analysis of Media Coverage of the Andrha Pradesh Cyclone
              and the Sahel Drought," in Disasters and the Mass Media
              (Washington, D.C.: National Academy of Sciences)
              139-157.

The article reports on content analyses undertaken on the coverage of
one quick onset and one slow onset disaster. In the quick onset Andrha
Pradesh Cyclone, the contents of the Hindu, The New York Times, and NBC
Nightly News were analyzed. In the case of the Sahel drought, the
contents of the New York Times, Le Monde, Le Soleil, Time magazine, and
NBC Nightly News were examined. Conclusions are offered in a variety

of areas, including a comparison of the two cases. Among the findings are that 1) sudden disasters entail more uncertainty, fewer reliable dates, and greater variation in severity estimates; 2) in sudden disasters, severity estimates follow a trend of rising estimates; 3) the prestige press plays a more important role in a slow onset disaster; 4) although the local press in developing countries tends to give a disaster more coverage than the Western press, the local media tend to underplay negative aspects of a disaster and provide less perspective on the disaster; 5) although the media provide relatively infrequent coverage of slow onset disasters, their coverage is generally comprehensive; 6) the media make more use of visuals in reporting slow onset disasters than they do in sudden disaster reporting; and 7) television news programs tend to be slower than other media in providing comprehensive reporting on sudden disasters.

Rogers, Everett M., and Rahul Sood
    1981   "Mass Media Operations in a Quick On-Set Natural
                Disaster: Hurricane David in Dominica." Working Paper
                #41. (Boulder, Colorado: Institute of Behavioral
                Science, University of Colorado).

This report presents the results of a case study of mass media response on the island of Dominica to Hurricane David. Interviews were conducted with media personnel and observations were made three days after the storm and in a later follow up trip. Both local and international (i.e., American) media are examined. Topics considered include gaining access to news sources, the accuracy of coverage, the nature of the content, and the effect of the disaster on radio station popularity. Also presented is a discussion of research methodology and problems of undertaking quick response studies.

No Author
    1979   "The Role of the Media: Panel Discussion." Annals of
                the New York Academy of Sciences 365:123-133.

This is a verbatim account of a panel discussion on the role of the media, with particular reference to the reporting of nuclear disasters. During the discussion, members of the press accuse the public utilities of withholding pertinent information, while members of the nuclear industry feel improper coverage is a problem of lack of knowledge about nuclear matters. Subjects discussed include the intent of communication, and who is competent to provide information during emergency occasions. The nuclear mishap at Three Mile Island and the radioactive dumping at Middletown, N.Y. are compared. The discussion ends with suggestions for better reporting. These include: specific scientific training for reporters, the maintenance of a skeptical attitude, and the sharing by the utilities of the responsibility for public information.

Rosengren, Karl, P. Arvidson and D. Sturesson
1975 "The Baresback Panic: A Radio Programme ad a Negative
Summary Event." ACTA Sociologica 18:303-321.

A fictitious radio play depicting a future nuclear accident at an as
yet not on-line power station and the perceived resulting public
"panic"--as reported by the mass media--in studied. A telephone survey
of a sample of 1,200 people of an area in southern Sweden near the
Baresback plant (the subject of the radio play) was conducted. In
addition, a content analyses was undertaken of 12 daily newspapers.
These data were combined with interviews with local police and other
authorities. The findings indicate that no panic of any kind occurred
as a result of the broadcast. The media coverage of this non-event is
analyzed as a summary event: i.e., the change of a slow social process
or structure into a manageable event.

Ross, Ronald
1980 "Regeneration Through Near-Disaster: The Airplane
Crisis Film." Unpublished paper.

A study of airplane crisis films as an emerging film genre discusses
regeneration of the human spirit through personal confrontation with
near death. Has the relationship between man and his machinery come
full circle? Has the machine mastered the man? These questions are
asked by the author and he attempts to answer them in a discussion of
man's free will. He also considers the use of stylistic tools and
motifs employed in airplane crisis films and identifies mirrors and
masks as common elements in this proposed genre; representing the
opposition of reality and perceived reality.

Rubin, David M.
1987 "How the News Media Reported on Three Mile Island and
Chernobyl." Journal of Communication 37:42-57.

In this article, Rubin examines the flow of information following the
nuclear power plant accidents at Three Mile Island (TMI) and Chernobyl,
finding that, although information was more readily available to
journalists at TMI than Chernobyl, the U. S. media tended to cover both
accidents similarly. In the face of a lack of information, such as
radiation figures, expression of optimism on the part of officials, and
no emergency information plan, the media tended to seek out other
sources, resulting in less accurate information and the presentation of
worst-case scenarios. After the Nuclear Regulatory Commission provided
an official to coordinate policy and brief the media, U.S. officials
were more able to control public information. Finally, Rubin notes
that the media tend to be suspicious of nuclear power and this must be
taken into account when formulating nuclear disaster information
policy.

Rubin, David M.
    1987   "Lessons Learned from Three Mile Island and Chernobyl:
                How the News Media Report Serious Nuclear Power Plant
                Accidents." Emergency Preparedness Digest 14:10-14.

With regard to the news media, the accident at Three Mile Island and
the accident at Chernobyl were handled very differently by the Western
and Russian media. The western media, however, responded in a similar
fashion to each accident and, as such, it is argued that we can predict
how the Western media will respond to future nuclear accidents.
Certain problems regarding information flow existed. In particular,
the relationship between media personnel and officials representing the
plants were problem-ridden. The author offers some suggestions as to
how these organizations can better their public information policies
which reduce or eliminate some of the recurring problems which hinder
the media coverage of major nuclear accidents.

Sanders, Jonathan
    1986   The Soviets' First Living Room War: Soviet National
                Television's Coverage of the Chernobyl Disaster. Un-
                published paper.

A descriptive discussion of how Soviet national television covered the
Chernobyl disaster. It is noted that both Soviet broadcasting and
audiences operate with different assumptions than those that prevail in
the West (e.g., what the West was downplaying of disaster in the first
four sentence newscast announcement was widely interpreted in the
Soviet Union as indicating that a catastrophe had occurred). What was
not, as well as what was broadcast, was important in what audiences
believed. Content was rooted in Russian history as well as Soviet
society. Misreporting and exaggeration in Western reports about the
event not only evoked reaction but a traditional response pattern in
the Soviet media. More recent disasters in the Soviet Union have been
reported in more detail and different from the past, probably
reflecting a lesson learned from the initial delay of reporting
Chernobyl.

Sandman, Peter M.
    1986   Explaining Environmental Risk: Some Notes on
                Environmental Risk Communication (Washington, DC:
                United States Environmental Protection Agency).

This small booklet presents guidance to environmental officials in
utilizing the mass media in the coverage of environmental risk. It is
based upon a content analysis of environmental risk studies that
appeared in New Jersey newspapers in 1985 and the author's general
knowledge of journalistic practices. Among the issues discussed are
the following: the low priority given to environmental risk stories by
journalists, the focus upon the politics of risk rather than the
science of risk, the journalistic practice of covering contrasting
viewpoints as a form of objectivity, the tendency to simplify risk

stories and personalize them, and the consequences of journalists
lacking expertise and time to adequately cover stories.

Sandman, Peter M.
    1986   "Providing Environmental Risk Information to the Media:
               A Feasibility Study." New Brunswick, New Jersey:
               Rutgers Medical School.

This report represents the second phase of the Environmental Risk
Reporting Project. Two goals are outlined. They involve finding out
why environmental risk information is not getting as much coverage as
it should and not getting into first day breaking stories about
hazardous environmental situations, and an examination of the
feasibility of various ways to get environmental risk information to
reporters and into their articles. To achieve their goals, interviews
and surveys were conducted to obtain reporters' attitudes toward
environmental risk information. The report provides a summary of the
conclusions obtained from these interviews and surveys, and from a cost
analysis of five possible options for getting risk information to
reporters. Some of the conclusions include the need for an ongoing
educational dialogue between journalists and technical experts about
the importance, quantity, and quality of background risk information in
environmental journalism, the feasibility based on benefits and costs
of risk information sources such as an environmental library within the
newspaper building, an environmental risk press kit carried by each
reporter, a Mobile Environmental Risk Information Team, or a series of
seminars and workshops to make journalists more capable of explaining
risk issues to the public.

Sandman, Peter M., David B. Sachsman, Michael Greenberg, Mayme Jurkat,
Audrey R. Gotsch and Michael Gochfield
    1986   "Environmental Risk Reporting in New Jersey Newspapers."
               The Environmental Risk Reporting Project, New Brunswick,
               New Jersey: Rutgers Medical School.

The Environmental Risk Reporting Project analyzed the strengths and
weaknesses of environmental risk reporting in New Jersey's 26 daily
newspapers. The evaluation consists of a description of two forms of
analysis of the archive, a formal content analysis and a subjective
expert analysis. The formal content analysis included the coding of
each article by paragraph to assess "risk" content and to see the
relationship between source and risk statements, and additional
information on source and risk placement within the articles. The
expert analysis involved evaluations by four "experts" from different
fields concerning the handling of risk information by the 26 news-
papers. A description of the findings of both types of analysis
focusing mainly on the lack of environmental risk information within
the archive is also presented. Also, recommendations for reporters and
editors, and for the Environmental Project's future study are summari-
zed. These recommendations emphasize the need for more education and
interaction between reporters and knowledgeable sources to make
newspaper representatives more aware of environmental risk issues.

Without this awareness, important risk information is left out of news stories or bias toward particular sources or sensationalizing occurs within articles. Overall, the report states that the lack of enough and appropriate risk information limits the public's exposure to necessary information about environmental risk which directly affects their lives.

Scanlon, T. Joseph
  1979 "The Media and the 1978 Terrace Floods: An Initial Test of a Hypothesis," in <u>Disasters and the Mass Media</u> (Washington, D.C.: National Academy of Sciences) 254-263.

For some time, the Emergency Communications Research Unit (ECRU) at Carleton University in Ottawa, Canada has been gathering data about the role and response of the media during crisis. Though interesting, these studies have neglected an important aspect of media perfor-mance--how adequate or complete the media coverage is in a disaster. This preliminary paper, focusing on floods in Terrace, British Columbia, hypothesized that "the media would provide no advance information about the possibility of disaster or what to do about it, nor would they provide any post-disaster information about what might be done to avoid future occurrences." In other words, media coverage would focus for the most part on the actual disaster itself and ignore the more long-term issues such as hazard mitigation. Initial exami-nation of the data suggests that the hypothesis was substantially accurate and that the media concentrated mostly on the disaster impact period. It was also noted that though the media's coverage was generally accurate, there were a number of detail errors.

Scanlon, T. Joseph and Suzanne Alldred
  1982 "Media Coverage of Disasters," <u>Emergency Planning Digest</u> October - December 9:13-19.

In this article, the authors argue that disaster events are covered by the media in the same fashion as any major unexpected event. In order to describe the typical manner in which these types of events are covered, the authors explicate 21 points related to news media coverage of disasters. These points include typical ways in which media organi-tions create stories, problems they encounter, and ways of dealing with these problems. In conclusion, the authors argue that the types of issues discussed are not unique to the coverage of disasters, but are typical of the coverage of any large unexpected event.

Scanlon, T. Joseph, Suzanne Alldred, Al Farrell, and Angela Prawzick.
  1985 "Coping with the Media in Disasters: Some Pre-dictable Problems." (Ottawa, Canada: Carleton University)

In most disaster situations, public administrators prefer the media not to be present. However, during disasters the media can be of great aid to disaster relief officials. The media can assist in pre disaster

educational programs and serve as a communication source during actual disasters. The potential problems caused by the media are mentioned. Suggestions for developing disaster plans are made assuming the media acts in disasters as it does in normal times.

Scanlon, T. Joseph, Kim Dixon and Scott McClellan
    1982   Miramichi Earthquakes: The Media Respond to an
                Invisible Emergency, Ottawa, Canada: Emergency
                Communications Research Unit, Carleton University).

This research looks at the events surrounding the Miramichi earthquakes of 1982. Specifically, the role that media (in particular radio) played in dissemination of information related to the event. The work goes on to indicate some specific reasons why the mass media played such an important role during this event. The research also elaborates some of the ways in which stories about the nature of the earthquake were disseminated among various community members, and the manner in which those stories were expanded. The research was done in three communities impacted by the event. Initially 60 individuals in each area were interviewed. The sample was expanded so that the original source of the story could be determined. The selection of the communities to be studied was done to reflect size dimensions, ethnic and cultural variation, and unique community style. The research focused on some of the ways in which the media obtained their information and how it was used to inform the general public. The media obtained information from sources that were most readily available and distributed that information as it came to their attention. The information obtained was also given to emergency officials (where such information was not available to official sources themselves). Finally, the work focuses on some of the difficulties that were imposed by the situation and delineates some of the lessons that could be learned.

Scanlon, T. Joseph and Alan Frizzell
    1979   "Old Theories Don't Apply: Implications of
                Communications in Crises." Disasters 3:315-319.

Information dissemination may be different during times of crises. Theories of information dissemination such as the hyperdermic needle and two step flow theories may do more to explain the distribution of information regarding events of minor importance than information flow during major crises. The authors argue that the mass media during major crises do not play a critical role in information dissemination, and, in cases where they do, they tend to be ineffective. It is argued that interpersonal communication or word-of-mouth communication may be just as fast and possibly more accurate than the mass media in distributing relevant information immediately following a crisis.

Scanlon, T. Joseph and Robert Hiscott
        1985   "Not Just the Facts: How Radio Assumes Influence in an
                Emergency," Canadian Journal of Communication
                11:391-404.

The purpose of this article is to lend support to the notion that
during emergencies the media assume a much greater amount of influence
than at normal times. Not only do media receive and pass on official
information (their traditional function), but they come to decide what
to report or not to report, what agencies or officials to contact, the
parameters of the event, how to portray the event, and whether or not
the event actually is a disaster. The media also interact with the
audience to disseminate advice and guidance and serve as a link between
organizations or response agencies in need of resources and informa-
tion. To support these ideas, a brief summary of a number of emer-
gencies in which "radio mass communications is seen as essential to
adequate disaster response" is presented. Also, case studies are
presented that focused on how media acted during a crisis in three very
different situations: The London snowstorm of 1972, the Miramichi
Earthquakes of 1982, and the Terrace Floods of 1978. Although the
authors focus on the increased influence of media during disaster, they
do note some limits on media power. For instance, media cannot play a
key role in the community if the community does not have local media,
or if media is lost during the disaster, or if individuals involved in
response or victims are unable to be in contact with media because of
evacuation or relocation. The authors disagree with the belief that
radio reaction to emergencies may simply be routine work with the
normal gatekeeping function being performed. Instead, several examples
of changes are presented to support the authors' alternate view
including the disruption of the media's usual means of communication.
Finally, the authors' review reasons why it is important to appreciate
the media's increased influence over people during crises; as opposed
to normal times when other information sources are available.

Scanlon, T. Joseph, with Roy Luukko & Gerald Morton
        1978   "Media Coverage of Crises: Better than Reported, Worse
                than Necessary." Journalism Quarterly 55:68-72.

Six Canadian news events are the basis for a study on accuracy in the
media's coverage of crises. A comparison is made between the media
versions and the documentable facts in order to ascertain how many
instances of error and confusion occur. In order to document cases of
conflict, members of the Emergency Communications Research Unit (ECRU)
at Carleton University (Ottawa, Canada) used a murder, a gas explosion,
a blizzard, an apartment fire and a mudslide as case studies for a
cross check on the media versions with an actual reconstruction of what
happened. Overall, the general coverage by the media was found to be
accurate, but 23 instances of error were found in the coverage of four
newspapers and two television stations. All errors were found in
accounts not attributable to a specific source. In concluding, this
article suggests that the media forego reporting crisis information
which is not verified by a specific source, and that they accept the

normal state of confusion and lack of information which follows a disaster.

Shabad, Theodore
    1986   The Soviet Press and Chernobyl. Unpublished paper.

This analysis is based on regular daily scanning of some 20 Soviet daily newspapers and 30 journals and magazines coverage of the Chernobyl nuclear disaster. The initial press reaction was of a polemic nature, reacting defensively to Western press reports on the event. This was followed by more factual press coverage, unprecedented in the wealth and detail of information presented on a disaster in the Soviet Union. Substantial detail was progressively reported in the press about the 135,000 people evacuated from the 18 mile zone around the disaster site, the concern over the radiation hazard, and the engineering efforts to bring the runaway reactor under control. This even set a precedent in the way the Soviet press is now reporting disasters in the country with far more, and more detailed, coverage than ever before.

Singer, Benjamin D. and Lyndsay Green
    1972   The Social Functions of Radio in a Community Emergency.
                (Canada: The Copp Clark Publishing Company).

This publication focuses on London, Ontario's, most powerful and listened to radio station, CFPL. The purpose of the study is to compare the station's operations in normal times to those in an emergency situation such as the blizzard of 1971. The underlying perspective of this study concerns the view of society as a set of communications patterns in which information and meaning are transmitted between individuals and organizations. During an emergency, all communication processes or channels are supplanted by one dominant medium, the radio. To review the radio station's operations, the study first examines the subject of citizens' calls to the station during normal times. The focus of these calls is categorized under 10 different headings. It is then compared with calls received during the emergency; a significant shift in concerns is noted. The next aspect involves a summary of how radio became an actor in the transaction system by abandoning its normal reflective function (simply passing on information given to it). The study summarizes the servo-communication model in terms of radio: the station came to link sources of resources, emotional support, recommended behavior, and gratitude with those individuals and organizations in need of these things. A review of the types of channel usage and how these channels shifted during the storm is also provided. For instance, during the crisis, radio acted more as a two-way channel of communication, like telephone. It targeted messages from single sources to single recipients; whereas, during normal times, it uses more of a one-way diffuse channel. As with the other components of the radio station that were examined, the role of the radio host also became altered during the crisis. This figure became a central link in the communication system and was defined by himself and the public as a

possessor of most known and essential information. Finally, the authors make suggestions for future planning of communications systems for emergency operations based on problems associated with lack of pre-existing emergency plans during the 1971 blizzard.

Smith, Don D.
    1981   Public Perceptions and Interpretations of Mass
                Media Disaster Warnings. Unpublished paper.

The author identifies factors involved in obtaining an effective public response to disaster warning. After discussing major problems in the current literature, such as a lack of attention to message content, message formulation, and differential public response patterns, the results of a survey of public response to warnings during Hurricane Eloise are presented. A sample of 191 residents was selected. The respondents perceptions of media messages were examined. Major observations included the following: 1) most respondents heard of the approaching storm through the mass media, particularly television and radio, with only 10 percent learning of the storm through interpersonal channels; 2) though many respondents were monitoring media messages, individual derived different meanings and interpretations and did not remember important information, such as shelter locations and evacuation routes; 3) 80 percent of the respondents perceived the media did a satisfactory job, however, complaints were made about a lack of clarity, confusion and contradiction in the messages; and 4) the need for better and more frequent announcements of shelter location, evacuation routes is noted. The author concludes by calling for a central, coordinated control over message formulation and dissemination and for more research on the topic.

Smith, Don D.
    1982   Assumptions About Mass Media Effectiveness in
                Pre-Disaster Evacuation Plans. Unpublished Paper.

Disaster policy planners assume more effective mass media performance in disaster evacuations than the mass media can provide. In support of this assertion, 32 disaster plans were first examined with particular emphasis placed on the role assigned to the mass media; then 36 research studies were looked at which examined public behavior in actual pre disaster evacuations. Then a comparison was made of the actual responses with disaster plans' assumptions about mass media effectiveness in pre disaster evacuations.

Sood, Rahul Swaroop
    1982   "News Media Operations in Natural Disasters."
                Unpublished doctoral dissertation. (Stanford,
                California: Department of Communication, Stanford
                University)

This study seeks to establish differences between news media operations during large scale disasters and more normal routine circumstances. After analyzing and comparing local, extra-local, and national news

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media operations during "gradual-onset" natural hazards and in more routine times, several conclusions are reached regarding changes in the news process. These include variations in the gatekeeping process, variations in operational constraints, and changes in the relationship between news media and public officials. The author also notes and discusses the predominance of objective news inaccuracies during disasters as well as the greater variety of intermedia cooperative arrangements during emergency situations. The study concludes with several suggestions designed to improve future news media operations in a disaster context.

Sood, Rahul, Geoffrey Stockdale, and Everett M. Rogers
     1987   "How the News Media Operate in Natural Disasters."
               Journal of Communication 37:27-41.

A study of news media in a number of different disaster settings provided a general overview of how the news media operate in natural disasters. Organizational changes in the newsgathering process were examined, as well as the relationship between emergency officials and the media. This article also indicates media preferences for authoritative sources in disasters, noting that in the case of disasters, journalists would prefer to have a centralized information source to convey emergency public information. The authors ended by discussing the importance of the media in communicating risk and setting public agendas through their coverage of "key events" such as disasters.

Stallings, Robert
     1967   A Description and Analysis of the Warning Systems in the
               Topeka, Kansas, Tornado of June 8, 1966. Research
               Report #20. Newark, Delaware: Disaster Research
               Center, University of Delaware.

A description of how warnings were transmitted, in part, by mass media organizations, of a tornado which approached and impacted Topeka, Kansas. Emphasis is on the complex interorganizational links involved, of which the mass media are only one component.

Stephens, M. and N. Edison
     1982   "News Coverage of Issues During the Accident at Three
               Mile Island." Journalism Quarterly 59:199-204.

The article is based on a study of the media coverage of major issues stemming from the Three Mile Island incident. A content analysis of the first week of coverage was done for ten top news organizations. The purpose was to determine the balance of positive and negative news coverage. Some of the safety issues studied included the status of the accident, chances of meltdown, and evacuation possibilities. The study also looked at the political issues that arose, such as the reliability of the information available, the future of nuclear power and the management of the accident. The results show that the coverage of the

safety issues were predominantly positive (64%), while the coverage of
the political issues were mainly negative (65%). The authors conclude
that the coverage was balanced.

Stephenson, R. S.
1980   "Kampuchea - Relief Agency Appeals in the British
         Press, 1979-1980." Disasters 4:271-276.

The findings from a content analysis of a money raising campaign
by British relief agencies for Kampuchea is described in this article.
By tracing the ad campaigns of OXFAM, Red Cross, Help the Aged, and
Unicef, certain inconsistencies appear both across campaigns and within
each campaign. The findings suggest that the overall trends of the
campaigns changed through time. Prior to Thanksgiving of 1979, the
campaigns tended to focus upon certain issues, such as the number of
people dying, the problems of delivering goods, and predictions of
worsening conditions. Between Thanksgiving and Christmas of that year,
the focus changed. The campaigns were filled with information stating
that aid was reaching victims and that the number of individuals at
risk was greatly reduced. At no time do the campaigns supply
information regarding the reason for the shift. (There is no concrete
evidence suggesting that the situation actually improved.) However,
the author suggests that vagueness and ambiguity were deliberately used
throughout the campaigns to allow for such changes in emphasis without
disrupting the campaign's momentum.

No Author
1988   Symposium on Science Communication: Environmental
         and Health Research. Los Angeles, CA.: Annenberg
         School of Communications, University of Southern
         California.

Contains some of the papers delivered at the symposium which addressed
the subject of communicating scientific information and research
findings to such audiences as other sciences, the mass media and
practitioners who use research based information, with an emphasis upon
the implications for the environment and health. Among the papers were
Everett Rogers on Scientific Communication About Risk, Dorothy Nelkin
on Communicating the Risks and Benefits of Technology, E. L. Quaran-
telli on Lessons Learned From Research on Disasters, Ronald Perry on
the Communication of Disaster Warnings, Peter Sandman on Hazard Versus
Outrage: The Case of Radon, and Alfred Marcus and Isaac Fox on Lessons
Learned About Communicating Safety-Related Concern to Industry: The
Nuclear Regulatory Commission After Three Mile Island.

Thatcher, John T.
1980   "The Interface Between Care and the Media," in
         Disasters and the Mass Media (Washington, D.C.:
         National Academy of Sciences) 229-232.

Disaster relief agencies need the media to provide accurate coverage of
disasters as the situation develops. Reliable coverage enhances the

capabilities of the agencies by illustrating/highlighting specific
public needs for rehabilitation. In the same sense, media need
disaster relief agencies for information and contacts to better report
disasters. Disasters do happen, and when they do the media and
disaster relief agencies need each other. In conclusion, media and
disaster-relief agencies should establish a strong, cooperative
relationship.

Turner, Ralph H.
    1980   "The Mass Media and Preparation for Natural
             Disaster," in Disasters and the Mass Media
             (Washington, D.C.: National Academy of Sciences)
             281-292.

This paper focuses on media treatment of, and preparation for potential
disaster as opposed to the actual reporting of disaster. The study was
prompted by the U. S. Geological Survey announcement in February 1976
that an uplift in the San Andreas fault had occurred (indicating a
near-future significant earthquake), and by a UCLA field survey which
indicated that almost half of the population believed that a serious
earthquake would occur there within one year. Six major newspapers
from the Los Angeles area were closely monitored for a three year
period (1976-78), as were television and radio broadcasts of earthquake
news. Several themes emerged in this study of media treatment of a
prospective earthquake. These themes include the notion of generally
"highly responsible" news treatment by the press, most evident in its
decisions on what to report and what not to report, and a concern
fostered by the media to protect the public by avoiding potential
mass-panic producing statements. Finally, it is noted that any
assessment of the responsibility shouldered by the media must be
considered in relation to an assumed time span, since constant media
analysis of its reports and their resultant impacts upon the public are
sometimes indicated by public discontent or anxiety. Also, such an
assessment may undermine the media's ability to play an effective role
in creating long-term disaster preparation awareness.

Turner, Ralph H.
    1982   "Media in Crisis: Blowing Hot and Cold."
             Bulletin of the Seismological Society of
             America 72:19-28.

This article examines the findings of a three year content analysis of
the print media following the announcement of the "Palmdale Bulge".
These findings suggest four major problems which face the media in
covering events of this nature, and which may be responsible for the
inconsistent amount and type of coverage. These problems include
newsworthiness, the search for sources of new information, the
maintenance of balance between alarm and assurance within the public,
and the problems of communicating scientific concepts to a lay
audience.

Turner, Ralph H.
    1983   "Waiting for Disaster: Changing Reactions to
                Earthquake Forecasts in Southern California."
                International Journal of Mass Emergencies and Disasters
                1:307-334.

In 1976, Los Angeles County residents were the recipients of various
earthquake predictions from both scientific and nonscientific sources.
In this study, the author proposes six hypotheses concerning the
effects of waiting for a disaster to occur. These include both
positive and negative effects, ranging from the idea that the disaster
response among the community will be more effective (as a result of
rehearsals), to the notion that an increased skepticism towards the
forecasters and the media will occur. From February 1977 to December
1978, residents were surveyed to see how waiting affected their
attitudes and perceptions of earthquakes: the stability and changes in
the expectations of the community, their fears and concerns, and the
changes in their overall preparedness are examined. Earthquake hazard
awareness is also discussed, showing changes in the reliance upon
certain media for specific information. The author concludes that
periods of waiting result in an increased selectiveness of news, which
improves the community's understanding and response, and decreases some
of the negative effects of earthquake predictions.

Turner, Ralph H., Joanne Nigg, Denise Paz and Barbara Shaw Young
    1980   Community Response to Earthquake Threats in Southern
                California: Part II The Media Response (Los Angeles:
                University of California).

This volume starts with a chronological history of earthquake related
issues that the local mass media covered in 1978. The issues that were
focused on were earthquake events, prediction, preparedness and safety.
Topics included the Palmdale Bulge and what to do about old buildings
which could collapse. The media paid special attention to a dam, a
nuclear power plant and a liquified natural gas terminal. The bulk of
the volume deals with these issues and the media's role in the
reporting of them. The major question addressed was whether or not a
long-standing state of earthquake alert is possible in Southern
California. Attention was paid to the media's handling of potential
fears, how they present uncertainty and contradiction in predictions,
the translation of sophisticated scientific knowledge into lay terms
and how organizational responses are interpreted by the media. The
researchers concluded that the differing media organizations vary
considerably in what they deem as newsworthy. The decision is usually
based on resources, the audience, disaster history of the area and the
editor's sense of responsibility. No general patterns were found in
what was covered and what was not. However, it did appear that local
earthquake threats and discoveries stimulated more media concern than
did remote disasters, especially with regards to individual and
organizational preparedness and safety concerns. The authors felt that
a generalized readiness to respond both individually and organiza-
tionally should an earthquake appear likely is not consistent with

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normal media operations. The media's lax of scrutiny in getting credentials from those who make the predictions, the focus on current issues and a short time span for news go against the maintenance of an effective alert. The media must improve the audience understanding of prediction, preparedness and safety if an adequate long-standing state of alert is to be possible.

Volkman, Ernest
    1980   "Nuclear Reaction: How They Brought the News
                 from Harrisburg to the World." Media People
                 November:77–80.

After the breakdown at Three Mile Island Nuclear Plant, the media was presented with a dilemma. Up until the accident, their news coverage had mainly ignored the issue of nuclear power, despite the fact that there had been at least half a dozen nuclear mishaps during the last decade. Critics have stated that coverage of the TMI event was the media's worst performance in decades, but reporters felt they were innocent victims caught in the crossfire among power plant executives, politicians and a news-hungry public. AP and television were the worst offenders, resorting to coverage by triviality and doomsday reporting. Examples of what are called sloppiness and sensationalism in the newspapers are also given. Despite the experience at Three Mile Island, the author claims that the question of nuclear power is still almost totally ignored in media coverage.

Walters, Lynn, Lee Wilkins and Tim Walters (eds.)
    1988   Bad Tidings: Communication and Catastrophe
                 (Hillsdale, NJ: Lawrence Erlbaum Associates).

The volume contains eight disaster relevant articles on mass media activities in relation to disasters. (1) E. L. Quarantelli on The Social Science Study of Disasters and Mass Communication. This is a review article that covers early research on the role of the media in disasters, summarizes the research that has been done, indicates several trends in disaster mass media studies, and suggests future research directions on the topic. (2) Sharon Friedman on TMI--The Media Story That Will Not Die. Using a content analysis she notes that although the media provided broader coverage of the questions surrounding the accident, local newspapers have done a better job with the story in the years after the accident. (3) Ronald Perry and Michael Lindell on Communicating Threat Information for Volcano Hazards. They found in a study of the Mt. St. Helens disaster that local emergency managers need to incorporate the mass media more directly in their planning for warning information and subsequent information about personal protection and mitigation. (4) John Ledingham and Lynne Masel Walters on The Sound and the Fury: Mass Media and Hurricanes. Their study suggests that the media set an evacuation agenda for readers and viewers, one that is influenced by individual needs and that interacts with a variety of other social environmental factors. (5) Lee Wilkins on Bhopal: The Politics of Mediated Risk. She describes how media coverage of the Bhopal chemical disaster

emphasized an institutional view of political power while omitting
other equally important facets of politics. (6) Philip Patterson on
Reporting Chernobyl: Cutting the Government Fog to Cover the Nuclear
Cloud. Based on a content analysis of American network television, it
is asserted that news of the Chernobyl disaster was replaced by
propaganda when television reported on the event. (7) Dent Elliot on
Tales from the Darkside: Ethical Implications of Disaster Coverage.
She develops an ethical hierarchy of disaster reporting that is said
can be used by working journalists as well as scholars to evaluate mass
media performance with respect to disasters. And (8) Lee Wilkins on
Conclusion: Accidents Will Happen. In a concluding essay and
summarizing the earlier chapters, she delineates some emerging trends
regarding media performance and its role in the larger culture, and
certain paths that some future on the mass media in disasters might
follow. Several other chapters in the book deal with issues regarding
the reporting of terrorism, AIDS and nuclear power.

Waxman, Jerry
    1973   "An Analysis of Commercial Broadcasting Organizations
            During Flood Disasters." Unpublished doctoral disser-
            tation. (Columbus, Ohio: Department of Sociology, The
            Ohio State University)

This study details the organizational and operational adaptations of
commercial broadcasting organizations in their response to natural
flood disasters. One of the major findings is that during natural
disasters, station operations are impacted differently depending upon
the pre crisis technology. Also, although interorganizational
communication channels continue to be followed during disaster, an
emergent norm opens all gates to accommodate the increased information
flow, thereby superceding pre-crisis gatekeepers. On the interorgani-
zational level, both conflict and consensus are found to be present in
the interaction between various types of broadcasting organizations.
Finally, the author details changing channels of organizations-to
public communication as one example of media response to natural
disaster stress.

Waxman, Jerry
    1973   "Local Broadcast Gatekeeping During Natural Disas-
            ter." _Journalism Quarterly_ 50:751-758.

This study focuses on certain social structural characteristics
affecting the gatekeeping process during an emergency. The main point
of concern becomes not the gatekeeper as an individual, but the process
by which social forces provide new parameters to the news flow. This
process is determined through analysis of the situational context or
structural characteristics affecting radio stations as organizations
during their operation. A comparison of four different communities,
each having recently experienced flood disasters, was carried out,
focusing upon the gatekeeping processes followed during normal
operation and disaster operation. Various changes were noted between
the two processes. One of these was the diminished role of the radio

newsman as the major gate in the news flow as he was replaced by an emergent norm, an "open gate" situation allowing all information to be ushered through to meet increased demand. Another disaster period change concerned the actual content of the news. News was no longer "what newsmen make it", but mostly a conglomeration of publicgathered and disseminated information telephoned to the radio station. Finally, it was noted that public feedback to broadcasting was much greater during the disaster period, thus the public was strongly related to, and greatly impacted upon by broadcasted content.

Weller, Jack
  1979   Some Issues of Method in Research on the Mass Media and Disaster. Unpublished paper.

This paper discusses methodological issues that arise in the design of research on the mass media and disaster. In the first section, an examination is made of how each type of mass media disaster research is associated with distinct methodological problems (e.g., given different research objectives such as description, analysis, verification, etc., what are some of the methodological issues involved?) The second section of the paper examines distinctive obstacles in doing the research (e.g., the complexity, unscheduled and ephemeral nature of disaster events or the conceptual lacunae that characterizes the area). The third section looks at the strengths and limitations of "content analysis" of mass communication products in disasters. The last section of the paper concludes with a comparison of the differences in journalistic and social scientific approaches to disasters.

Weller, Jack
  1979   "What is News After a Disaster." Unpublished paper.

The attempt is made to determine what constitutes news during the immediate postimpact period. A content analysis of coverage of three major disasters is undertaken. The content examined includes coverage in the Anchorage Daily Times just after the 1964 earthquake, the Chicago Tribune after a 1967 major snowstorm, and the Topeka Daily Capital following a tornado. The author is particularly concerned with the issue of whether or not a community shifts from mechanical solidarity to organic solidarity in response to an emergency as it is reflected in the media content. The suggestion is made that perhaps the shift, which is somewhat evident in media content, may not be a reflection of mechanical solidarity within the community, but within the media organizations.

Wenger, Dennis
    1980   "A Few Empirical Observations Concerning the
                Relationship between the Mass Media and Disaster
                Knowledge: A Research Report," in Disasters and the
                Mass Media (Washington, D.C.: National Academy
                of Sciences) 241-253.

A survey analysis of disaster knowledge, beliefs, and emergency
planning uncovers the role of the mass media as a source for disaster
information. Respondents from three communities with extensive
disaster experience were surveyed with four sources of information in
mind: the mass media, personal disaster experience, discussions with
others, and formal education programs. In addition, public officials
from emergency-relevant organizations in the test communities were
interviewed, and data from a disaster-free control group was
introduced. Cities chosen had similar population size, and all had
been impacted upon by a disaster agent--either a flood, hurricane, or
tornado. Results from the survey indicate that the mass media are the
most salient source of information for all samples of respondents,
including those who have actually experienced disaster. Public
officials rely less heavily on the media for disaster knowledge,
preferring instead to receive their information from training and
public education programs. Respondents were given a scale to see
whether the people for whom the media was the most salient source of
knowledge had higher beliefs in disaster myths. This was confirmed.
In a comparison of the public and the officials concerning the accuracy
of news media disaster accounts of actual destruction, 42 percent of
the respondents from disaster communities felt that the news media did
not accurately portray the amount of devastation, while 62 percent of
the organizational officials disagreed with the media accounts. Future
media studies are encouraged to determine the effect on the public's
knowledge of the social aspects of disaster.

Wenger, Dennis
    1985   "Mass Media and Disasters." Preliminary Paper
                #98. (Newark, Delaware: Disaster Research Center,
                University of Delaware).

Relationships between disaster officials, disaster researchers and the
mass media are examined in this article. Disasters are popular
subjects for news accounts due to their reliability as a source of news
that is easy to cover, so the media have developed patterned procedures
for creating news and covering events. Highlighted here are the
elements of media coverage that result in them being viewed as both
friend and foe. Although it may be desirable for emergency officials
to control the flow of information during a disaster, it is also
unrealistic to believe that centralizing distribution of all informa-
tion will control the media. In the future, hazards of technological
and natural origin may increasingly occur, and changes in media
technology will call for coordination because of expansion of media
scale and more rapid dissemination of information. With an increasing
fragmentation of the audience, emergency managers must find ways to

overcome such barriers to future distribution of warning messages and disaster information. Integrating the media into an effective emergency response network involves constant planning and the active participation of all parties.

Wenger, Dennis E. and Barbara J. Friedman
     1985   "Local and National Media Coverage of Disaster:
                   Content Analysis of the Print Media's Treatment
                   of Disaster Myths." Preliminary Paper #99.
                   (Newark, Delaware: Disaster Research Center,
                   University of Delaware).

This article is an examination of the extent to which local and national newspaper coverage of Hurricane Alicia disseminated myths about disaster. Goltz (1984) found through a quantitative content analysis that two California newspapers did not disseminate myths about four earthquakes. In this study the Houston Post, Washington Post, New York Times, USA Today, Newsweek and Time were studied. It was found that extensive attention was paid to the myths of looting and increasing criminal behavior. Furthermore, other myths were also disseminated by both the local and national press. The difference in results from those of Goltz is attributed by the authors to differences in the conceptualization of disaster myths and contrasting research methodologies.

Wilkins, Lee
     1985   "Media and Disaster Coverage: The Bhopal
                   Example." Unpublished paper.

This study details the response of the mass media to Bhopal, a technological disaster, and assesses media coverage of natural hazards in general. It is stressed that although the media has an important potential role in educating the public on the nature and possible consequences of technological hazards, to date it has significantly failed in this respect. The authors attribute this failure to both a specific lack of education and training necessary to process technical information, and to general inaccessibility to certain resources (utility companies, etc.) during disaster time. A content analysis of the Bhopal coverage was conducted which included commercial news network broadcasts, the wire services, the East Coast "prestige press" and national news magazines. A British weekly newspaper specializing in foreign affairs and an Indian newspaper were also monitored in order to provide an additional cultural context to the analysis. These sources were examined over a two month period, beginning Dec., 1984 and ending Feb., 1985. Preliminary findings suggest that the media treated the incident as a "dramatic event" -- that is, the focus began, and remained on the disaster as a crisis of the moment. Most information emphasized what happened, rather than why, and dramatized conflict rather than analyzing it. Long term aspects such as impact and mitigation were generally ignored, and there was marked failure to focus on such important issues as health, environmental, legal, and social implications of technological hazards. The author notes that

these early results thus suggest that media reportage often dramatized, but more frequently failed to provide a contextual understanding of an event which may be rooted in deeper societal problems.

Wilkins, Lee
      1985   Television and Newspaper Coverage of a Blizzard:
                   Is the Message Helplessness? Newspaper Research Journal
                   6:50-65.

The study presents a detailed content analysis of 977 television and 389 newspaper stories presented by the local media in Denver in response to a blizzard. The analysis is focused upon determining the nature of the messages presented to the public in light of the role of the media as a source for public information and education. Major findings include the following: (1) the story was given prominent coverage by both television and newspapers, (2) stories did not define "blizzard" and only 4 percent discussed the pre-impact and mitigation phases, (3) about 50 percent of all stories concerned the immediate post-impact phase, (4) television provided fewer stories than the newspaper on pre disaster preparedness, warning and impact; however, television provided more coverage of rehabilitation and reconstruction, (5) television provided relatively more hard news coverage than did the newspaper, (6) all media relied on official sources, particularly television. A thematic analysis was also conducted and it was observed that the overall image portrayed in the stories was one of helplessness on the part of victims and organizations. Crisis, powerlessness and individual helplessness were emphasized which may be detrimental to the media's effectiveness in providing public information and education.

Wilkins, Lee
      1986   "Media Coverage of the Bhopal Disaster: A Cultural Myth
                   in the Making." International Journal of Mass
                   Emergencies and Disasters 4:7-33.

The Union Carbide chemical disaster in Bhopal, India is the topic of this content analysis of both print and electronic media. A two month period is examined from December 3, 1985 to February 3, 1985. The author argues that these findings suggest that there is the emergence of a new "media cultural" myth which has potentially dangerous implications. The new myth portrays a society composed of helpless people who are powerless against economic and political policies of large corporations which potentially pose a threat to them. The result is people, such as the residents of Bhopal, becoming victims of incidental manmade disasters.

Wilkins, Lee
      1987   Shared Vulnerability: The Media and American
                   Perceptions of the Bhopal Disaster (Westport, CT:
                   Greenwood Press).

In the first chapter, the disaster at Bhopal is described; this is followed by a content analysis of media coverage of the event through

December 1985. Examined are the three American wire services, the three major news magazines, the Eastern prestige press, and television. Topics examined in the analysis include the nature of the coverage of the disaster, the sources cited in stories, and the differences in coverage within specific mediums or among media. Survey findings are then used to measure what Americans remember of the disaster and of mass media reports about it. In conclusion, the author considers some ethical implications raised by the mass media coverage, the media's contribution to the growing doomsday mythology surrounding science and how this bears on democratic decision making. Some suggestions are also made for improving media coverage of such disasters as Bhopal.

Wilkins, Lee and Philip Patterson
    1987   "Risk Analysis and the Construction of News."
              Journal of Communication 37:80-92.

A content analysis of 952 print and broadcast stories following the Bhopal and Chernobyl disasters found that the coverage of these two disasters demonstrated attribution error in three ways. First, they treated both disasters as novel and unique events instead of as a predictable consequence of industry. Second, the media did not take a comprehensive look at the social and economic system in which the Chernobyl accident took place. The Soviets tended to be portrayed as technologically backward, callous toward their citizens, and secretive. Third, the media relied on emotive images to convey the story. The article recommends examining risk situations more closely, treating them as results of the risk decisions that society makes instead of as unique events.

Williams, E.
    1956   A Study of Letters to the Editor of the Waco
              Times-Herald and News Tribune Following the Tornado of
              May 1953. Unpublished master's thesis. (Austin, Texas:
              Department of Sociology, University of Texas).

A content analysis of letters to the editor after the tornado disaster. Some of this same material is reported in Moore and Crawford (1954).