

Preliminary Paper

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SOME VIEWS ON THE WARNING PROBLEM IN DISASTERS
AS SUGGESTED BY SOCIOLOGICAL RESEARCH

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Research is not important because it finds that certain things are so, that the evidence supports commonly held views, but rather because it establishes that certain things are not so, are different from what is widely believed, and advances new ways of looking at problems. Much of the research into disasters by social and behavioral scientists has pointed out many mythological beliefs about disaster behavior and has indicated new ways of thinking about the phenomena being studied. Therefore, in the following remarks we want to set forth, in a very selective fashion, what sociological research has established about misconceptions as to disaster warnings and what such studies suggest as to untraditional ways of looking at the problem.

There is a tendency to think of disaster warnings in technological and/or mechanical terms, such as radio or siren soundings. But these devices are means of communication, at best. Their activation, use and functions are determined by the behavior of people and the actions of organizations. As such, warning should be thought of primarily as involving psychological functions and social structures. Viewed this way, warning can be seen as a process that is a product of social organization.

This view of warning is quite different from one that suggests that warning can be equated with information about a disaster agent. Viewing warning as a complex process and product means seeing it as involving all of the components, relationships and factors which effect:

- (1) the determination and estimation of danger;
- (2) the formulation and transmission of warning messages about this danger; and
- (3) the way people interpret and act upon these messages.

The Establishment of Threats Requiring Warning

Some of the complexities involved can be seen in the collection, collation and evaluation of threat data. Before a warning message can be issued, information about the danger must be obtained, pulled together and judged. This is not purely a technical matter or a simple linear flow of information. Look at what is involved in the collection of threat data.

First, information about danger cues primarily is gathered by organizations rather than by individuals. This is more than a play upon words. Organizations process information differently from the way persons do.

Second, many different groups are involved, in varying degrees, in obtaining this information. It is a multi-group process.

Third, not all social entities taking part in the collection of threat information are equally active in seeking cues or monitoring danger signs. Put in other words, there is a considerable difference in the involvement of groups in looking for threat data.

Fourth, there are also marked differences in organizational ability to detect and understand danger cues. Some organizations are "smarter" than others.

Fifth, even active agencies operating in intelligent fashion often do not cover the full range of potential danger cues. Conversely, they pay little attention to cues or indicators of trouble outside of their organizational domain or responsibility.

What we have just noted is merely a surface glance at the complexity involved solely in the collection of threat data. It would be possible to illustrate similar complexity in the collation and the evaluation of danger cues. The emphasis here is on the complexity of the process and product solely involved in the determination and estimation of danger, which is only part of all that is involved.

We stress this to make the point that all sorts of things can go wrong in the collection, collation and evaluation of threat data. Whatever technology might be employed--computers, radar or what have you--it can be no better than the organizational flaws and failures that are a mark of groups in the same way that human errors and mistakes are a characteristic of human beings. If there are problems in disaster warnings, it should be recognized that the source of the problems may be as much in the providers or the sources of the warnings as it is in the recipients of these warnings. Particularly in the disaster warning area, there is a strong tendency to see problems as residing primarily in the public at large, the recipients of the warning messages. A more balanced perspective recognizes that the providers of warnings, the agencies determining and estimating danger, have their own problems which, if not solved properly, making problems in the delivering and receiving of warning messages relatively unimportant.

The Dissemination of Warning Messages

There is often a tendency for organization officials to delay warning messages for many disaster agents because they feel that the "public" cannot deal with them effectively and will respond in irrational ways. Most research shows that irrational behavior under stress, even extreme stress, is a very rare phenomena. It is much better to assume that the vast majority of people will respond reasonably to intelligent and intelligible warning messages.

The major action needed to insure the effectiveness of warning messages is to make certain that information will be provided that will lead to adaptive behavior. Some disaster messages, intended to warn people about dangers, contain only information of threat and no suggestions for adaptive behavior. That is not a warning message. At best, it is merely an alert that something may be wrong, but it generally will not lead to action. And it is action; i.e., responsive behavior, that should be the intent or objective of any warning

message, rather than solely a sensitization that something might be wrong.

Research suggests that an adequate warning message is one which gradually prepares for action by (a) providing various and multiple cues which are convincing about threat and at the same time (b) presenting possible alternative actions to be considered that would be adaptive and convenient. While too many cues can confuse recipients of messages, cues that reinforce one another can help convey the idea that there is real danger. The presentation of alternative courses of action makes it more likely that a recipient will find one convenient to follow.

In American society the general assumption has been to utilize more impersonal and individualistic means to disseminate warnings, such as radio, to alert the "public." On the other hand, little attention has been given to the utilization of channels of communication that already exist within particular social groups. For example, most organizations, whether they be schools, factories, offices or businesses, have everyday means and channels for communicating with their own members. In addition, most organizations are part of everyday interorganizational networks. The vast majority of people and groups are tied, in a routine way, with many other people and groups. Much more could be done to take advantage of such additional channels of communication and multiple linkages for dissemination of warnings than has been done in the past.

There is a need for some creative thinking along this line instead of continually following the old, and in many respects incorrect, model which posits a major disseminator; e.g., a key radio station broadcasting to the isolated masses in the community. Ways ought to be explored to take advantage of everyday behaviors, rather than to try to force persons to act in "unnatural" ways; i.e., contrary to routine habits and impulses. For example, the "public" is frequently urged not to use some channels of communication at times of collective trouble, such as the telephone. Such admonitions, all the evidence indicates, are useless. People will use the phone since that is a normal, everyday habit. Instead of trying to stop the impossible, people calling one another at times of community stress, ways ought to be found to take advantage of such calls so as to improve the dissemination of warning messages. This is not a usual way of thinking about the problem, but if present ways of doing things are unsatisfactory, new ways should be sought, no matter how unorthodox they may appear at first glance.

Furthermore, warnings cannot be seen as a simple technical message issued by a creditable organization to a responsive public. Just as organizations must deal with the possible consequences of information they issue, the population also has to consider the consequences of attending to the danger cues and following suggested courses of action. At one level, the assessment process is not that different, be it by distributors of warning messages or recipients of them. In both cases, the parties involved must make assessments of the possible consequences if they do or do not accept certain cues and attempt certain actions.

There is an implication here that the fear, held by those responsible for the issuance and distribution of warnings, that the public cannot deal with threat comes true because of the willingness of those in command to share the evaluation process with those to be warned. Groups involved in warnings should open to the public their processes and ways of judging cues and arriving at decisions. In general, more trust is placed in those statements for which there is understanding of the

decision behind them than in flat edicts which seem to come from nowhere. Similarly, warning messages are more likely to be accepted if the process leading up to them is more clearly understood by those towards whom the warning message is directed.

Response to Warnings

The most studied aspect of the warnings problem has been the response to them. We can only touch on three points in our brief comments.

Warning messages are often not received by their intended audience or are received by an unintended audience. This is particularly true when impersonal and non-specific channels of communication, such as radio, are used. Mass media exposure varies tremendously in terms of day, time and season. Different channels have different audiences. For example, different radio stations in the same community may have almost no overlap of audiences, reaching sharply different segments of the community. This is not an insignificant fact, given the potential victim populations have differential probabilities of being impacted because of the kind of housing they have (e.g., mobile homes), the particular topographical features of the neighborhoods in which they live (e.g., flood plains), or their easy access to understandable information (e.g., non-English speaking groups). It is remarkable that whole subpopulations of a community can "miss" compared with the exposure others get to the same words, be the message warning or other community relevant information. Stated another way, there is not a "public" out there ready to be warned, but a variety of different groups with different probabilities being tuned in to any general community directed message. Differential exposure to disaster warnings almost insures differences in responses.

Even if warning messages are clear and specific and are conveyed through multiple channels, this does not guarantee that the message will be received by the "public" in the same way that the officials intended in issuing the warning. Let us cite just one complicating factor. Some communities have had considerable prior disaster experience; cues and warnings are interpreted differently to such communities than they would be in one without previous experience. Warnings are always issued in supportive or denying contexts, never in neutral settings. Response is, therefore, not solely to the warning message per se, but to that information as it is perceived in a particular historical background. A warning message never simply goes "out there"; it reaches particular communities containing subpopulations with different learned ways of reacting in and responding to threats. Response patterns are as much a function of the background of the warned group as they are of the warning message itself. Thus, there can be huge discrepancies in the response intended by the warning message and the actual response which is evoked.

Finally, responses to warnings are only effective if they lead to preventive, protective or ameliorative actions. The probability of this occurring is dependent on many factors. However, as a general principle, the more desired response to the warning message is in line with everyday behaviors, the more likely it is to occur. This is another way of restating an old DRC principle; that is, it is by far more effective to adjust-disaster plans to people than to try to force people to follow prescribed plans which mandate or require unusual or non-routine behaviors. The relevance of prior and exercised planning to achieve this is, of course, obvious.

These remarks hardly exhaust all that could be said. For instance, little thought is given to the nature and the form of later time warnings that are often needed after the initial alert. Disaster impact frequently generates a series of continuing and secondary threats that may exist for a long time after the initial warning message. Likewise, almost no attention has been given to harmonizing the issuance of warning messages with the "social time" of the community. By social time is meant the customary rhythms which exist within a community; for example, school, work, shift, etc., times.

In conclusion, it is necessary to emphasize that warning is more than a message; it is a complex process involving many organizations and individuals. Furthermore, the warning process always occurs in an on-going social situation and not in a neutral context. Finally, it is better to adjust plans to people than to try to force people to follow plans. If such things are kept in mind, the effectiveness and efficiency of the warning process can be improved.

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