

**Finding Order in Disorder:
Continuities in the 9-11 Response**

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The events of September 11th in the United States prompted speculation about the capacity of modern societies to deal with such collective traumas. Here, comparisons are made to past situations, primarily Hamburg after intensive bombing in 1943. Such comparisons indicate immediate and persistent efforts to re-establish the continuity of social life. Such continuity is in contrast to popular images of individual and collective disorganization as well as the presumption that urban areas are especially fragile. After 9/11, effective efforts were frequently attributed to American exceptionalism.

While the social sciences have a number of concepts to deal with social disorganization, there are fewer to characterize stability and adaptability. Illustrations of the importance of social capital and organizational resilience in the New York case are offered. By contrast, post 9/11 discussions have often been dominated by the recycling of disaster myths, especially the belief in widespread panic, the necessity of command and control and the assumption that "people" are the primary problem. Many of those ideas have since become embedded in the implementation of "homeland security".

"For when thy judgments are in the earth, the inhabitants of the world shall learn righteousness"

Isaiah 26:9

"New York, New York, What a Wonderful Town"

L. Bernstein

“Dust in the air suspended
Marks the place where the story ended”

T.S. Elliot

The concern here is the dialectic between order and disorder. There will be three parts to the discussion. First, it is necessary to point out that social organization is capable of enduring significant shocks contrary to the usual prediction that such shocks lead to the end of civilization. Consequently, it is useful to talk about cases of significant threats to the social order of a magnitude beyond 9/11. Second, the question will be raised as to how conceptually we can deal with order/disorder and organization/disorganization. Third, I want to examine some of the unanticipated consequences in American society as a result of 9/11, consequences which are little noticed but might be significant and costly in the future.

On Order and Disorder

For the past two years, we have been preoccupied by the acts and threats of terrorism. The events of September 11, 2001 have provided us with a set of numbers—9/11—to evoke memories. It has been a period when sainthood has been proffered to some political leaders instead of the usual threats of indictment or impeachment. It has elevated New York to a pantheon of sacred cities worthy of a pilgrimage, such as Jerusalem, Rome or Mecca. It has been a time when working class civil servants have replaced corporate executives as contemporary heroes. And it has created a new class of experts of terrorism and security identified primarily by their mastery of Machiavelli.

In recent years, we have commemorated the anniversary of that event and, while the memorials have been diverse, one general theme has been evident. That the collective response was a collection of individual heroic acts, mirroring the traditional value on individualism in American society. Certain authority figures were seen as remarkable, holding a torn social order together. Those exceptional efforts hark back to the heroism celebrated in America's past. But the continuity of that tradition deserves a broader base to evaluate, both historically and cross culturally. The more general sociological questions are—How do societies react to collective traumas? What social resources do societies have to cope with such threats? Was the recent American experience unique or different? Can societies actually recover from such traumas?¹

To try to answer such questions, it is necessary to get away from the immediate situation of 9/11 and examine different threats/different

responses in different historical contexts. The choice of a relevant case study is difficult. What criterion does one use?—by number of deaths or injuries, by location, by recency, by scope of physical destruction, etc.? Any choice is selective and a compromise. Certainly one set of comparisons when urban social systems experienced significant shocks occurred in World War II and such events have the advantage of considerable documentation and are focused on the more immediate emergency response. The primary case study here is Hamburg, Germany in late July 1943.²

Hamburg, with perhaps 2,000,000 persons in the metropolitan area, was an industrial and port city and a prime bombing target. While it remained a target over the course of the war, in late July 1943 over two days and nights, over 2,300 heavy bombers, primarily RAF, dropped over 7,200 tons of explosive and incendiary bombs on the city. The bombing created a fire storm, killing from 30,000 to 45,000 residents, destroying over 56 percent of the housing and leaving over 900,000 homeless. The number of civilian casualties here was nearly as great as the number of British casualties from all of the German air raids of the war.

Hamburg responded in the following way:

“...Hamburg basically saw itself through this immediate post raid period under its local leadership and using its local resources. Essential services were restored; water was the first priority. Vast tonnages of debris were cleared from the streets. The remaining fires were extinguished. Hundreds of unexploded bombs had to be located and defused.”

(Middlebrook, p.355)

In addition to fighting fires, members of the fire brigade rescued over 18,000 people, freeing over 6,000 trapped in air raid shelters and digging several hundred out of the rubble. The First Aid services attended to 1,772 people on the spot and took 6,700 to emergency centers where over 25,000 persons were treated.

On the fourth day, telegraph services were restored; on the 8th day, some mail was delivered; on the 12th day, outgoing mail was restored; on the seventh day, the activities of the Central bank were re-established and on the 13th day stock and commodity exchanges reopened. In the first week, wartime rationing of food was abolished but community kitchens were established which fed from 5 to 11 percent of the population.

After the second night of the bombing, July 27th, authorities ordered all non-essential workers to evacuate the city. Estimates of the number

evacuated range from 900,000 to 1,200,000, most of whom had had their houses destroyed. But recovery activities continued.

“At the end of the two months, the bodies of 30,000 had been recovered, 170 miles of chocked streets had been cleared, 4559 ruined houses demolished and 3109 dangerous house facades leveled.”

(Rumpf, p.91)

Writing some four months after the raid in a detailed report of the response activities, the Police President commented in the following way:

“The conduct of the population, which at no time and nowhere showed panic or even signs of panic, as well as their work, was worthy of the magnitude of this disaster. It was in conformity with the Hanseatic spirit and character, that during the raids, friendly assistance and obligation found expression after the raids an irresistible will to rebuild.”

(Report, 1946, p.23)

Middlebrook reports:

“Life returned to Hamburg soon after the bombings when approximately half of the evacuees returned before winter. All available accommodations were packed and many people lived in the basement of ruined houses or in garden sheds on the city outskirts. Many would live this way until the end of the war. Factories reopened, commerce resumed and Hamburg became a living community in an extraordinary swift time.”

(Middlebrook, p.359)

By September 1st, over half of the 9400 employed in the shipyards were back at work and in five months the city was back to 80 percent of industrial production. After the end of the war, by 1950, Hamburg had recovered its pre-war population.

Was Hamburg a unique case? No. Two years later, Aug, 6, 1945, an atomic bomb was dropped on Hiroshima, Japan, a city of 245,000 which left 75,000 dead and an equivalent number injured. The day after, the military planning board met to determine responsibility for restoration among the mayor, the governor of the prefecture and the remaining

military forces in the city. That day, power had been restored to some areas of the city. The Branch of the Bank of Japan began making payments. Trolley lines leading to the city had been cleared. The next day, several priority government telephone circuits were restored and the railroad tracks above and below the city were open to traffic. The sixth day, food rationing was re-established and on the 10th day, Mitsubishi Machine and Shipbuilding Company resumed operations with 70 percent of their employees reporting. The city was eventually rebuilt with a larger population, 380,000 in 1957, and with expanded industries and a new university (Fritz, 1960). In each of these communities, while many people were engaged in what might be called survival and immediate relief activities—rescue, medical treatment, burial, emergency housing, many others were involved in the establishment of normal community facilities and functions. The actual experience in Hamburg and Hiroshima is in sharp contrast with the expectation of what the results should have been, for some—the disorganization of social life.

America is Dangerously Vulnerable to Panic in Terror Attack, Experts Say.

“I am worried about terrorism causing the collapse of civil society”

David McIntyre, a terrorism expert
Newhouse.com. Aug.21, 2002

Images of Disorder in the Popular Culture

Existing within the popular culture and, at times, embedded in public policy is a set of assumptions which can be stated in the following terms:

Events, such as Bombings, Terrorist Acts, Disasters.

- cause widespread individual disorganization
- which impairs responsible action
- which creates organizational and community disorganization
- which makes response and recovery problematic
- which requires external authority to insure the continuity of social life.

It is possible to set the World War II bombing experience against the popular expectation of what should have happened. On the expectation that such massive attacks would lead to traumatic and anti-social behavior, Inkle (1958) comments “there is no evidence from any of the

World War II bombings that widespread panic occurred anywhere” (p.102). He added that, “Law and order will be maintained by the inertia of cultural traits and the persistence of one’s habits. The great devastation may offer opportunities for looting but law-abiding citizens will not suddenly turn into criminals. There is absolutely no evidence from past disasters of a precipitate increase in crime” (p.186). On the assumptions of the collapse of community organizations and of local government, in Hamburg, the Fire Brigade and the emergency medical services operated in the most difficult of circumstances. Personnel of the local government continued their responsibilities with a minimum of external assistance. The existing defense commitments of the national governments did not allow the transfer of national resources to the impacted area. Too, local preparedness efforts, such as the establishment of air raid shelters and the pre-raid evacuation of nonessential personnel did have the effect of reducing injuries and death.

Two other popular images can be questioned. First is the assumption that urban areas are especially fragile and that populations living in a complex technological environment are especially vulnerable to disorganization. Yet, urban areas are also locations where populations are resourceful and adaptive (Konvitz, 1985). Too, the adaptability of the response in Hamburg, Hiroshima and elsewhere should raise questions about the conventional explanation that the response to 9/11 by New York was a result of American exceptionalism. In contrast, urban communities in different time periods and social contexts have shown the ability to survive and respond to impacts conventionally seen as debilitating and destructive. The issue shifts then to a consideration of the mechanisms of social order. How does one conceptualize the stability and adaptability that social systems seem to possess?

Conceptualizing the Response to Crisis Events

Social scientists have many different vocabularies to characterize social breakdowns but fewer to conceptualize social continuity and stability. Initially, the assumption is made that the impact of 9/11 on cultural systems was somewhat minimal. While the attack of 9/11 was met with disbelief as it unfolded, there was the gradual realization the U.S. was involved in issues initiated beyond its borders and, in effect, would have minimum consequences in undercutting widely shared cultural assumptions. Social constructionists argue that in every society, social reality is precarious but that every society develops ways to explain and justify the social order (for an elaboration of these ideas,

see Berger and Luckmann, 1966; Berger, 1969). This is accomplished by various processes of legitimation so that the existing institutions define and support social reality. While the 9/11 terrorist attack centered on important U.S. symbols—the World Trade Center and the Pentagon, the attack did not significantly challenge the legitimacy of these symbols for the American “people”. Instead, the cultural meaning of the attack was interpreted as contradicting other values—democratic process, free trade, sovereignty, religious pluralism and gender equality—presently potent and widely shared symbols in their own right. This collective realization led to a rapid reaffirmation in the patriotic response and with the extensive effort to detain those “suspected” of heresy. Culturally, then, the 9/11 attack had the effect of reinforcing the symbolic universe in American society so the primary focus of the response was to repair the social structural consequences of the attack. Two concepts will be suggested here. The first, social capital, provides the prime base for social stability and the second, resilience, comes into play when new problems demand new solutions.

Social Capital

Social capital refers to aspects of the social structure in which social actors can use resources, in the same fashion that both physical capital and human capital can be seen as resources.¹ In most media presentation of crises events, the focus is on the loss of physical capital—wide angle shots of damaged buildings. Secondly, attention is given to the loss of human capital—pictures of search and rescue and crowded emergency rooms. Little attention is given to social capital since it is less tangible and thus less photogenic, making it more difficult to present in the media. It is possible to have considerable losses in physical capital and even human capital without corresponding losses in social capital. In Hamburg, over half of the housing was destroyed, but doubling up, living in basements and garden sheds allowed life to continue. Losses of workers can be “replaced” by others working longer hours. In general, social capital is less damaged and less affected than physical and human capital. It is the primary base on which a community response is built. In addition, social capital is the only form of capital, which is renewed and enhanced, quickly in emergency situations. So it is critical to understand as the base of an emergency response.

While there is some variation in the discussion of social capital, James Coleman's (1990) identification of six forms of social capital is used here: obligations and expectations, informational potential, norms

and effective sanctions, authority relations, appropriable social organizations and intentional organizations. Illustrating the role of each of the forms in 9/11 would be that most of those now defined as heroes were meeting job expectations and obligations and perhaps exceeded them. Others looking for "victims" because of their obligations created by work, family or friendship. Informational potential operated through the work group to provide information about danger and the possible evacuation routes in the Towers. Behavior on the tower stairs was guided by norms of appropriateness and responsibility as well as obligations to others in the work group and to other occupants of the buildings. Norms and sanctions operated to set up "security" and limit access to the site. Pre-incident authority, both organizationally and politically, was maintained. Press conferences by the Mayor were held when he was accompanied by the Fire and Police Chief as well as the Director of the Emergency Management Office. Hundreds of traditionally non-disaster related organizations became a part of the overall emergency efforts. Computer companies provided computers to the EOC. Nearby restaurants provided meals to emergency workers around the clock. Thousands of people were evacuated off the end of Manhattan by tour boats and private crafts. Beside the convergence within the city, representatives of organizations across the country offered assistance. Contractors volunteered their services and equipment for debris clearance. Of course, prior to 9/11, New York City had created an Office of Emergency Management as part of the Mayor's Office. It had constructed an EOC in Building 7 in the World Trade Center. Prior to the event, it had run a number of drills for a variety of disaster events, including bio-terrorism. Social capital provided the bases for understanding the overall response to 9/11. While the casualty figure of 3,000 was widely noted, this needs to be put in the context of some 8,000,000 "survivors" within the city, plus resources which came from other locations. New York had much more than sufficient financial, physical, human and social capital to respond effectively to the changed circumstances of 9/11.

In addition to 9/11, it is possible to build a case for the importance of social capital in the range of disasters in the United States by an analysis of previous research results (Dynes 2002). Too, the concept can be useful in identifying particular problematic issues. For example, occasions when minority communities are not tied to informational networks of the "official" organizations can lead to unfortunate consequences in prompting evacuation. It is possible to argue that contemporary urban communities in the United States have sufficient "capital" to respond to most types of emergencies. On the other hand, many other societies,

especially those with a limited number of civic organizations would have greater difficulty in response. But in addition to the importance of social capital, another concept is useful in identifying the adaptability some communities evidence in emergency situations. That concept is resilience.

Resilience

If one followed the work of the Disaster Research Center over the years, there has been a constant theme of disaster situations characterized by unexpected adaptations, improvisations, and the emergence of new forms of social organization, usually designated as emergence. For example, there is the literature on emergent groups (Stallings and Quarantelli, 1985), organizations that form new or altered organizational structures and perform non-routine tasks (Dynes 1970), improvisation in organizational domains, human and materials resources, tasks and activities (Kreps et al 1994) and role improvisation (Webb, 1998). All of this work points to creative action by collectivities in response to rather unique circumstances. Kendra and Wachtendorf (2003a) have suggested resilience as an overall label to describe the ideas since it conveys sustaining a shock without breaking and also suggests some notion of bouncing back from a disruption. Resilience does convey that something new has emerged which is improvised and adaptive in rapidly changing and usually ambiguous conditions.

Kendra and Wachtendorf draw on several streams of literature to identify features of characteristics of resilience. While such features can be identified as individual traits, they are intended to apply to organizational behavior. Such features would include the capacity to apply creativity suggesting that creativity is "figuring out how to use what you already know in order to go beyond what you currently think" (Bruner, 1983:183). A second feature is the ability to construct virtual role systems when persons mentally take all roles and thus can fill in for an absent member and can constantly align their action with the shared goals of the organization (Weick, 1993). Another desired feature is wisdom or the capacity to question what is known, to appreciate the limits of knowledge and to seek new knowledge. Another characteristic is respectful interaction which implies respecting the reports of others and being willing to act on them, reporting honestly to others, respecting one's own perceptions and trying to integrate them with others.

In general, the importance of resilience is to encourage recombining actions already available within the organization into new and novel

combinations. Also important is the ability of the organizations or parts of organizations to self organize into ad hoc networks to provide combined expertise for problem solving. Resilience can also be seen as the willingness to overturn or by-pass experience since the situation to be faced has novel elements requiring ingenuity. Many of these characteristics have been identified in research on what have been called “high reliability organizations”—nuclear plants, air traffic controllers, aircraft carriers—but should have applicability for any organizations facing a rapidly changing environment. Kendra and Wachtendorf liken resilience to a craft skill or to an artist’s application.

“In both cases, training and preparation remain fundamental, but creative thinking, flexibility and the ability to improvise in newly emergent situations is vital” (2003a, p52)

They go on to argue that creativity is such a significant feature of the response to emergencies that planning and training should move explicitly toward enhancing creativity at all levels of responding organizations. It “should not be left for emergency managers fortuitously bringing these skills to the job or developing them on their own.” (2003b, p139) This view is in sharp contrast with conventional emergency planning which sees any deviation from the initial planning as failure. They go on to identify important and effective improvisations in 9/11 which include the reconstitution of the destroyed Emergency Operations Center, the waterborne evacuation of lower Manhattan, processing debris from the site of impact, procedures developed credentialing site workers and the ability of volunteers to create a market for their services.

“Politics is the art of looking for trouble, finding it, misdiagnosing it and then misapplying the wrong remedies.”

Groucho Marx

Learning From 9/11—Keeping Our Burkas Firmly in Place

While the New York experience with 9/11 should provide an excellent opportunity for learning, the subsequent discussion about “homeland security” does not provide the base for much optimism. Emergency planning in the United States had its roots in World War II civil defense so it took 35 years after that for FEMA to emerge and another 20 years for it to become an effective agency. Current discus-

sion about “homeland security” seems to be predicated on the weakness of individuals and social structure and that extraordinary efforts will be needed to maintain social control. The direction seems to be more towards governmental paternalism rather than toward community self-sufficiency. Much of the discussion assumes the reduced capacity of individuals and social structure to cope and the necessity to create a closed command and control system to overcome that weakness.

Earlier, Dynes (1994) pointed out that the command and control model was built on false assumptions and inappropriate analogies and suggested a more adequate model for emergency planning, which he labeled “problem solving”. It was based on the idea that emergencies do not reduce the capacities of individuals or social structures to cope but only present them new or unexpected problems to solve.

The planning effort would be built around the capacity of social units to make informed decisions and these social units should be seen as resources for problem solving rather than being seen as problems themselves. Since an emergency is characterized by decentralized and pluralistic decision making, the autonomy of decision-making should be encouraged, not the centralization of authority. In other words, the problem-solving model should be designed as an open system in which the premium is placed on resilience. Then, those efforts can be coordinated. The goal should be to solve problems created by the emergency, not to control anticipated chaos. In arguing for the validity of the model, Dynes says:

An important advantage of planning according to the problem-solving model is that it allows the possibility of improvisation of solutions in the response period, thus it moves away from a current tendency to consider emergency planning adequate only if it contains descriptions of appropriate behavior for all hypothetical scenarios.

If one builds on the patterns of pre-emergency behavior, detailed prescriptions are not necessary. One should not assume that improvising indicates a failure in adequate planning. (Dynes, 1994, p.152)

Tierney (2002) has commented on the frequency in post 9/11 with which disaster myths have been recycled by the media and by those they quote. In particular, Tierney points out the rather constant use of the word panic in reference to a wide range of individual behavior: “Despite media reports that continually described occupants of the Trade Towers

as panicky, what was seen instead were people behaving with admirable presence of mind under the most adverse of circumstances. People sought information from one another, made inquiries and spoke to loved ones via cell phones, engaged in collective decision making and helped one another to safety” (p.2). The image that victims “panicked” obscures their role as the real first responders who manage evacuations, perform rescue, give care and transport others to medical care. Such a role is consistently identified in past research.⁴ Much of the current discussion of bioterrorism, by contrast, is predicated on the assumption that people will panic and flee in horror from such attacks. In turn, that assumption is used as the rationale for not communicating risk information. Tierney comments “The real danger is that crucial information on risks and on recommended protective action may not be available to people in a form they can use when they actually need it.” (2002 p.3)

Also in the post 9/11 recycling is the meaning of responses to the frequent media question—Who’s in charge? The usually ambiguous answer to the question is often interpreted that someone should be in charge but that the “command” structures broke down and this destroyed the effectiveness of the response. Tierney comments:

The lesson here is that the response to the September 11th tragedy was so effective because it was not centrally directed and controlled. Indeed, it was flexible, adaptive and focused on handling problems as they emerged. It was a response that initially involved mainly those who were present in the immediate area where the attacks occurred and then later merged the efforts of officially designated disaster response agencies with those of newly formed groups as well as literally thousands of other organized entities that had not been included in prior emergency planning and that were not subject to any central authority. (2002 p.11)

So in the continuing discussion of “homeland security”, that “people” are the problem, and that we need to establish clean lines of command and control, you can only be assured of the continuing and increased costs of 9/11. The consequences are not just the vacant acres in lower Manhattan and the billions spent on debris clearance. Accepting the necessity for command and control will insure that we will in the future destroy the innovation and flexibility shown in New York. Too, local authorities will be equipped with federally funded technological toys to maintain their command. All of this will tend to

exclude the public from their participation in the emergency management process. The public will continue to be seen as disruptive, lacking the “professional” skills needed for homeland security and indeed the major security risks for those commanding the new technologies. This will be especially ironic. One of the other consequences of 9/11 was the effort to remove the burkas, which distorted the vision of those in Afghanistan. U.S. policy has insisted that we keep our burkas on, ignoring the lessons of Hamburg, Hiroshima and New York.

Notes

1. Kreps (1984) has argued that disaster research implicitly deals with issues relating to questions about the social order. One of those questions is “How Great an Impact Can Social Systems Absorb and What are the Long-term Consequences of Disaster?”

2. The literature on the effects of World War II bombing is voluminous and is primarily focused on damage effects. The military literature emphasizes damage to underscore the effectiveness of bombing and the anti-military literature emphasizes damage to prove the effectiveness of bombing. Neither gives much attention to the continuity of social life. Ironically, the best research often came from the U.S. Strategic Bombing Survey and much of that data was summarized in Inke (1958)

3. The concept of social capital has the advantage of seeing social systems as active resources, rather than passive victims. At this time it is less quantitative than financial capital, physical capital or human capital but is useful for qualitative analysis of social systems. One promising source of development has been the social capital initiative of the World Bank. See, for example, “Social Capital: Conceptual Frameworks and Empirical Evidence: An Annotated Bibliography” Social Capital Initiative, Working Paper No.5, The World Bank

4. It perhaps is time to abandon panic as a useful social science concept indicating certain behaviors and let it be used in the vocabularies of different ideologies. In a Sept. 24th New York Times article on Indian Point Nuclear Plant hearing, panic was used in the following ways: as a justification for withholding information to the public; as a person’s possible reaction to an accident; as a predictor of the effects of risk information; and different from real panic as revealed in Orson Wells’ broadcast of the “War of the Worlds”. For further discussion, see Quarantelli, 2001; Clarke, 2002

References

- Berger, Peter L.. 1969. *The Sacred Canopy*, Garden City, N.Y. Doubleday and Co.
- Berger, Peter L. and Thomas Luckman. 1966. *The Social Construction of Reality*, New York: Doubleday.
Garden City, N.Y., Doubleday and Company.
- Bruner, J. 1983. *In Search of Mind*, New York: Harper.
- Clarke, Lee. 2002. "Panic: Myth or Reality" *Contexts* 1: 21-26.
- Coleman, James. 1990. *Foundations of Social Theory*, Cambridge, MA: Belknap Press
- Dynes, Russell R. 1970. "Organizational Involvement and Changes in Community Structure in Disaster", *American Behavioral Scientist* 13: 430-439.
- Dynes, Russell R., 1994. "Community Emergency Planning: False Assumptions and Inappropriate Analogies", *International Journal of Mass Emergencies and Disasters* 12.2:141-158.
- Dynes, Russell R. 2002. "The Importance of Social Capital in Disaster Response", Preliminary Paper #322, Newark, DE: Disaster Research Center.
- Fritz, Charles, 1960. *Individual and Group Reactions to Disaster*. Unpublished mss, Newark, DE: Disaster Research Center Library.
- Ikle, Fred Charles. 1958. *The Social Impact of Bombing Destruction*, Norman: The University of Oklahoma Press
- Kendra, James M and Tricia Wachtendorf. 2003a. "Elements Resilience After the World Trade Center Disaster: Reconstituting New York City's Emergency Operating Centre" *Disasters*, 27.1: 37 – 53.
- _____, 2003b, "Creativity in Emergency Response to the World Trade Center Disaster" Pp 121 – 146 in *Beyond September 11th: An Account of Post-Disaster Research*, Special Publication No. 39. Natural Hazards Research and Applications Information Center, Public Entity Risk Institute and Institute for Civil Infrastructure Systems, Boulder CO.: Natural Hazards Research and Application Information Center, University of Colorado.
- Konvitz, Josef W. 1985. *The Urban Millemium: The City Building Process From Early Ages to the Present*, Carbondale: Southern Illinois Press.
- Kreps, Gary A. 1984, "Sociological Inquiry and Disaster Research", *Annual Review of Sociology*, 10: 309-330.
- Kreps, Gary A. and Susan Bosworth et al, 1994, *Organizing Role Enactment and Disaster*, Newark, DE: University of Delaware Press.

- Middlebrook, Martin, 1980. *The Battle of Hamburg*, London: Allen Lane.
- Quarantelli, E.L. 2001. "Sociology of Panic.", *International Encyclopedia of the Social and Behavioral Sciences*, Oxford: Pergamon Press.
- _____. 1946. *Report by Police President and Local Air Protection Leader of Hamburg on the Large Scale Raids On Hamburg in July and August 1943*. London, Home Office, Civil Defence Department, Intelligence Branch, January.
- Rumpf, Hans. 1963. *The Bombing of Germany*. New York: Holt, Reinhart and Winston.
- Stallings, Robert. 1970. "Hospital Adaptations: Flow Models of Intensive Technologies." *Human Organization* 29: 294-302.
- Stallings, Robert and E. L. Quarantelli. 1985. "Emergent Citizen Groups and Emergency Management", *Public Administration Review*, 45: 93-100.
- Tierney, Kathleen, 2002, "Not Again: Recycling Disaster Myths in the Aftermath of 9/11." Special Session, *Annual Meeting of the American Sociological Association*, Chicago, IL, Aug. 17, 2002.
- United States Government. 1946-47. *U.S. Strategic Bombing Survey*, 316 vols. Washington: Government Printing Office.
- Webb, Gary. 1998. *Role Enactment in Disaster: Reconciling Structuralist and Interactionist Conceptions of Role*. Dissertation No.32, Newark, DE: Disaster Research Center.
- Weick, K.E. 1993. "The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster." *Administrative Science Quarterly* 38: 628-652.