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PRESIDENTIAL ADDRESS*

Munitions Ships and Meteors: *Plus c'est change . . .*

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Those who cannot remember history are condemned to repeat it. George Santayana

Many of those who study disaster began by responding quickly to unexpected events (see Scanlon and Taylor 1977). For example, members of Carleton University's Emergency Communications Research Unit (ECRU) were in Gander, Newfoundland, in 1985, the day of a fatal air crash, and in Edmonton, Alberta, in 1987, the morning after a devastating tornado. This speedy response allowed the researchers to visit emergency operations centers (EOCs) in both places while they were still in action. They were also able to talk to persons before they told their story too often or started deciding what they ought to say. Other researchers became interested in disaster when they were present at a tragedy or when their communities were impacted. Their experience provided them with insights and opportunities that they were able to apply to scholarship. Anne Eyre, for example, was at Hillsborough football stadium during the crowd crush incident; Elaine Enarson was a victim of Hurricane Andrew; and Clifford Staples was in Grand Forks, North Dakota, during the devastating 1997 Red River flood and downtown fire.

Both approaches to research have their limitations. Quick response can be constrained by researcher availability. Instructors are not always amenable to sudden disappearances of students, especially at exam time. The same limitation

* Ed.: This article is a written version of the Presidential Address delivered on 29 July 1998 by T. Joseph Scanlon to the Research Committee on Disasters at the World Congress of Sociology in Montréal. In making his address, Professor Scanlon was reviving a tradition started by E. L. Quarantelli when he was president of the research committee.

applies to persons with other commitments. A second problem is finding timely events to study. Floods, tornadoes, earthquakes, and toxic spills don't always occur when researchers are ready to study them. A third limitation is money. It is not all that easy to raise money to study events that may never happen. A fourth and growing concern is the increasing reluctance of sources to discuss issues that may end up in court. As for studying events that occur in one's own community, no one can be certain enough of being a victim to assume that personal experience will provide an opportunity for scholarship.

A historical approach to disaster research can eliminate many of those problems. Since 1987, when Russell Dynes suggested an article about the original disaster scholar, Samuel Henry Prince, for a special issue in this journal, Gillian Osborne and I have spent a great deal of time tracking Prince's career (Scanlon 1988; Scanlon and Osborne 1992; Scanlon with Osborne 1994) and tracking down information about Canada's worst catastrophe, the December 6, 1917, Halifax explosion (Scanlon 1997c; Scanlon 1997d). The data that have been uncovered provide a useful illustration of the advantages of historical research. They show, for example:

1. That it is possible to use historical data to illustrate many of the things we already know or think we know about disasters;
2. That it is possible to find historical material on topics of recent interest such as gender issues in disaster; and
3. That it is possible to use historical data to test what seem to be new concerns.

Though the world is changing, there is little evidence that human and organizational responses to disaster are changing. That explains the title; it suggests that munitions ships and meteors may be less far apart than would appear at first glance. Incidentally, this is not the first time historical data have been used to test current theory (see Scanlon 1994).

The Value of Historical Research

The first advantage of historical research is that it can be timed to fit one's own availability and inclination. Research can be scheduled to fit with breaks between academic terms or during vacations, or to tie in with other travels. A second advantage is that it allows choice. As part of a study of West Coast earthquakes, for example, it is possible to examine San Francisco in 1906, Chile in 1960, and Alaska in 1964. The last two were the most severe earthquakes ever recorded-Chile 9.5, Alaska 9.2 on the Richter scale. Waiting for a similar "big one" might mean that an opportunity would never come. Third, doing historical research can be inexpensive, especially with the development

of the World Wide Web. On the Web, for example, there are reports from the 1906 San Francisco earthquake including ones from individual fire companies and a summary of the police experience. They show that one way the city got needed supplies was by preventing ships already loaded from leaving the harbor. They also show that bodies were buried without identification or forensic examination after the earthquake just as they were after other events involving mass death:

> The morgue, which was constructed only for ordinary occasions, was soon filled to overflowing with the bodies of victims of falling walls, etc., so the target range of the Central Police station was turned into an emergency morgue for the time being. But as the fire was rapidly approaching the building, the twenty-eight bodies placed there were temporarily buried in Portsmouth Square. (Duke 1910 p. 3)

The above material is in *Synopsis of the San Francisco Police and Municipal Records of the Greatest Catastrophe in American History*. It was written by Thomas S. Duke, a San Francisco police captain. It can be downloaded without charge from the Web.

Fourth, historical research is relatively free of red tape. When human subjects are not involved, there is no need to clear instruments through ethics committees. There are few restraints about privacy or concerns about libel. Equally important, many of those who control the relevant material are archivists or historians, persons who favor openness, rather than persons with a self-interest against disclosure. Other documents will be in private hands, often with persons who kept them in the hope of eventual publication. Even if the data suggest ineptitude by agencies still in existence, those agencies are unlikely to be concerned. While access may not be automatic-it may be necessary to produce some scholarly credentials or make some promises about appropriate credit-documents don't refuse interviews.

Fifth, there is the joy of consistency. Those who do quick response research know that, as time passes, memories adjust in line with expectations. Decisions become more rational and are seen to have taken place at higher levels. Documents may also fudge the truth. After all, humans write them. However, records normally do not change between visits. For example, the official historian for the Halifax explosion, Archibald MacMechan, kept a diary. It is still possible three-quarters of a century later to read his thoughts and note his actions as recorded at the time. (Although he knew persons were being burned to death in the poor, residential North End, MacMechan went to Dalhousie University where he swept up broken glass at the library.)

Historical documents can be used in a number of ways. Documents on the Halifax explosion show, for example, that tall chimneys-from the breweries and other factories-were still standing after the explosion. They show that concrete structures seemed most resistant to the blast. This also shows up clearly in photos, another form of archival record. This opens the way to collaborative work with technically skilled persons. It is also possible to use new techniques-such as computer modeling-to test the validity of contemporary accounts. Allan Ruffman, David A. Greenberg, and Tad Murty used data on the location of Mont Blanc, the ship that exploded, and the size of the Halifax explosion to develop a model of the resulting tsunami. They concluded that in the Narrows-where the explosion took place-the wave would have been 10 meters high but less than three meters in height further away (Ruffman, Greenberg, and Murty 1994, p. 330). They also found that anecdotal accounts came quite close to matching their model, a finding reassuring to historians.

There is, of course, a down side to the historical approach. Persons like Thomas Duke–the police captain who wrote about San Francisco–and, for that matter, Samuel Henry Prince himself–believed that looting was commonplace in the wake of disaster and that individuals–in Prince's view, women and children-were inclined to panic. Their reports seem to challenge things now believed to be myths. Has looting and panic become less common? Or were these earlier writers simply wrong? Captain Duke, for example, says that "200,000 panic-stricken people" took advantage of an offer of free transportation from the Southern Pacific Railroad to flee the city. Flight behavior is not panic. Duke's use of the word is inappropriate. Similarly in Halifax, while scores of persons fled from the North End when there were official warnings of a second explosion, they left in an orderly manner. In addition, despite the warnings, many stayed behind. One man stayed in a pool hall figuring the safest place would be under a pool table. A veteran of the expedition that quashed the Riel rebellion in western Canada, George Lovett, got his blunderbuss and sat on the porch steps holding his gun. Convinced Halifax was under German attack, he vowed, "I am going to stay here and I am going to get the buggers." He was 80 years old at the time. His granddaughter, Evelyn Welch, has never forgotten what her grandfather did or said. As for reports of looting, police records from 1917 show only one criminal charge related to the explosion, and it was dropped. All other charges were for alcohol offences and prostitution, and the same names appear after the explosion as before.

Examples of Historical Research

The following four topics were selected to illustrate that historical data are relevant to current academic research:

- Convergence
- Gender Issues;
- Ocean-based response to disaster;
- The handling of large numbers of bodies.

Recently, I have published articles on all four subjects–and all flowed from or are based to a considerable extent on material acquired about the 1917 Halifax explosion (Scanlon 1992, 1996, 1997a, 1997b, 1997d, 1998a).

Charles Fritz and J. H. Mathewson introduced the term "convergence" in 1957 (Fritz and Mathewson 1957). Data from Halifax show that convergence is not a new problem. In the hours and days after the explosion, Halifax was overwhelmed by visitors, by matériel, and by information. Some early visitors were badly needed physicians and nurses, but before long they included scores of other persons including VIPs such as the Governor General, the Prime Minister, and Sir John Eaton, head of Canada's largest department store. On December 8th, two days after the explosion, Mayor Peter Martin asked the railways to intercept incoming travelers. At the mayor's request, the Superintendent of Canadian Government Railways, J. T. Hallisey, published this notice:

> ALL CONCERNED
>
> On account of the congested conditions in Halifax and lack of accommodation and food, unless persons can be of actual service in rendering assistance no one will be allowed to enter the city without a pass from the Military authorities to be obtained at Rockingham. Advise all applicants for transportation to that effect and refuse sight seers permission to board trains.

Despite these notices, Halifax was unable to prevent continuing convergence. This material helps show that Fritz and Mathewson were generally correct in what they wrote about convergence, though what they said is often expanded by those who have not read their work closely. The monograph, *Convergence Revisited*, draws heavily on the material from Halifax (Scanlon 1992).

Halifax also provides information about gender. The explosion occurred on a weekday morning in wartime when those at home were women, preschool children, and the elderly. Inevitably, in the worst hit area, the residential North End, women did most initial rescuing. However, once their families were all right (or dead) and others, mainly men, started to arrive, the women left the remaining rescue work largely to men while they looked after their families. This matches the pattern later identified by the National Opinion Research Center in the United States (Marks 1954). Gender issues arose again in the early stages of organized response. When the acting mayor and leading citizens formed the ad hoc Halifax Relief Committee, it was an all-male organization. Women became involved only after a leading citizen, the spouse

of a prominent physician, insisted that it was crucial to canvas the impact area to learn the extent of the problems and rounded up teams of women to do that canvas. Women were formally put on the executive board of the relief committee only after the Americans arrived and insisted this be done. Despite this, literature about the explosion still plays up male and military responses, something corrected in an article entitled, "Myths of Male and Military Superiority: Fictional Accounts of the 1917 Halifax Explosion" (Scanlon forthcoming).

A third thing that emerges from research on Halifax is that the first outside response came not by road or by rail but from the harbor and from the sea. Within minutes of the explosion, sailors from the Canadian depot ship, *Niobe*, streamed into the North End, and two British ships, *Highflyer* and *Changuinola*, sent rescue parties ashore. The American ship, *Old Colony*, was turned into a floating hospital, it eventually took on board 150 injured. Within hours, two other U.S. Navy ships, *Tacoma* and *Von Steuben*, arrived. Their crews assisted with search and rescue, their physicians helped treat the injured, and their marines took over nighttime security in Halifax. Eventually additional supplies arrived from Boston on two merchant ships. When other incidents were examined it appeared that this type of response was not all that uncommon, resulting in "Help From The Deep," a review of ocean-based response to disaster (Scanlon 1996).

Continuing Issues

These three topics-convergence, gender issues, and ocean-based response to disaster-continue to be matters of interest and concern. For example, after 240,000 people died in the Tangshan earthquake in China on July 28, 1976, the People's Liberation Army sent 140 medical teams, 650 vehicles, and 28,000 soldiers. Relief workers also came from other provinces.

> All highways leading into Tangshan had been severely damaged and only a few were open to traffic. Suddenly these remaining serviceable roads were crowded with vehicles anxious to rush to the area to help. A huge traffic jam was created, with cars not being able to move in or out. Great confusion followed, until the central office stepped in with traffic teams. Finally, on July 30, the traffic impasse was eased to allow smooth transportation of relief supplies and personnel. (Yong et al., p. 56)

To make things worse, many rescue units did not bring food and water.

Similarly, when Elaine Enarson and I asked students from Red River College in Winnipeg to assist with a study of traditional families in two evacuated communities in Manitoba, we found gender was a factor in how persons were

affected. For example, women were less likely to become involved in tasks like building dykes and were more likely to find themselves cooped up with adolescents in motels while away from their evacuated communities. And, perhaps not surprisingly, women were forced to leave the communities when emergency crews-all male crews-stayed behind (Enarson and Scanlon n.d.). The recent book by Enarson and Morrow (1998) indicates that concerns about gender are becoming more focused. One chapter draws on material from the explosion.

Finally, ocean-based response to disaster is relatively common though it is still rarely part of any plan. There was, for example, a similar though slower effective response from the sea after Cyclone Tracy devastated Darwin, Australia. Although the Royal Australian Navy was on Christmas leave at the time, the navy was able to recall crews, activate its ships, and reach Darwin within a week.

> The greatest advantage in using the fleet for initial disaster relief lay in the fact that the personnel who would be employed in the relief operation would be self contained in their ships, not drawing on the town's meagre supplies for their food, clothing and other necessities. (Johnston 1987, p. 26)

He compared the navy relief team to a hermit crab which carries its home on its back.

The situation has changed somewhat with the growth of aerial transport. For example, the first outside response to the 1964 Alaska earthquake came by air, but ocean-based response was also important (*Response to Disaster*, 1964). In fact the rail problems in Alaska forced ships to break their way through to Anchorage, a port once considered ice bound in winter (Dacy and Kunreuther, p. 177). Similarly in 1992, when Canada offered assistance to the United States after Hurricane Andrew, the Royal Canadian Air Force determined what was to be done, but supplies and most personnel arrived on the Canadian Navy supply ship, Protecteur. In 1995, even though much of Kobe harbor was destroyed, some relief workers and supplies came in over the seven wharves that were still usable. The paper discussing these incidents led to the Royal Canadian Navy running a disaster exercise involving ocean-based response to a simulated earthquake and tsunami in Port Alberni, British Columbia. Port Alberni was hit by the tsunami that followed the 1964 Alaska earthquake.

Unchanging World

In this century, we have dramatically changed the way we travel, the way we communicate, the way we manage organizations, and the way we store data. We have created many new threats to human survival including increasingly complex and dangerous chemicals. We have started to concentrate our

populations in cities so large that a future earthquake or meteor could kill millions. Yet the evidence from history suggests that the way we deal with the problems created by disaster is not changing all that much. In fact, a close look at what happened at Kobe in 1995 bears a remarkable resemblance to what happened in San Francisco in 1906 and Halifax in 1917. In all three communities, there were major fires and difficulty in fighting them and enormous problems in transportation and communication. In both Kobe and San Francisco there were serious problems in obtaining water. Finally, as shown in another recent article, in all three communities there was a similar approach to handling bodies, an approach that, once it is checked out, appears to be common to such incidents (Scanlon 1998a).

As mentioned earlier, bodies were moved quickly, without attempts to identify them, after the San Francisco earthquake. The situation was similar in Halifax. The 1917 explosion left hundreds of persons dead, but it also left thousands injured, many of them so severely that little could be done to save them. Finally, it left several hundred persons trapped in the burning wreckage of their homes. Many persons moved severely injured victims in an attempt to get them adequate medical care. Often when those persons died en route, they simply dumped them to make way for others still alive. Other persons pulled the dying and the dead from burning buildings, leaving them lying in the streets when they moved on to help others. Later, soldiers stacked those bodies to clear the streets. In other cases, family members and strangers carried bodies to funeral homes or to shelters like St. Paul's Church. The result was that many bodies were moved, often by strangers. Since many victims had their clothing blown off by the explosion, identification was made very difficult.

There is now substantial evidence that movement of bodies is common after such incidents. Bodies were moved in Texas City in 1947, Rapid City in 1973, Darwin in 1974, and Kobe in 1995 (Stephens 1997; Hershiser 1974; Scanlon 1979; Nishimura 1997a). After the Kobe earthquake, private citizens brought bodies to the police stations, temples, schools, gymnasia, health and community centers, and private companies where they were laid out on the floor. There were 300 corpses in a sports center in Nada ward (Nishimura 1997b, p. 235). The medical examiners in Kobe saw what happened as unusual. History suggests the opposite. The procedures used to identify the dead in Halifax in 1917 were far less sophisticated then those used after the 1985 Gander air crash or after the flash floods in Colorado (ECRU 1986; Blanshan 1977a, 1977b; Blanshan and Quarantelli 1981). However, some things have not changed. Quarantelli's work on the Vaiont dam shows how much pressure there is to recover and bury bodies individually:

> As an Italian general observed of the Vaiont Dam disaster where digging by thousands of soldiers for over 1,800 bodies went on for a week, 'It's absurd to dig down 10 feet of rocks and stones to find a body so we can rebury it in only 5 feet of dirt'. But the remark, of course, highlights the point that far more is involved than the simple matter of physically finding bodies to bury them again. (Quarantelli 1979)

The experience with the Swissair crash off Nova Scotia suggests improved methods of identification (such as the use of DNA) will intensify those demands though it is very expensive since there may be scores of body parts from a single victim, all requiring DNA testing. Yet many emergency agencies have failed to learn the lessons of history. Most assume that after a mass death situation, bodies will be at a single location and that they will remain there until they are tagged and photographed. That fits something like the December 12, 1985, Arrow air crash in Gander, Newfoundland (ECRU 1986). It does not fit what the research shows about catastrophic mass death (Scanlon 1998a).

Where We Can Learn

In short, on this topic and many others there is a great deal we can learn from the past. China and India and other countries have had a great deal of experience with mass death, especially mass death caused by catastrophic events. How many records are there are in those and other less-developed countries about past events that might be open to collaborative projects by experienced or novice scholars? Have we even thought of testing some of the statements in existing research? Has anyone ever looked at *Titanic* or the Triangle fire-two of Prince's examples-to see if they really did generate social change and, if so, how that came about? Has anyone tried to examine past and present events to see if changing technology influenced the style and effectiveness of relief? Such research would make us far better equipped to evaluate the potential impact of future technological change.

I wonder also-as a result of listening to some excellent presentations at the World Congress of Sociology in Montréal-whether historical research might add depth to some of the imaginative work now being done. Therrien's (1998) paper on forest fires could be reviewed in light of the work on the Tasmanian bush fires by Wettenhall (1979). Schmuck's (1998) examination of the floods in Bangladesh where tradition encounters modern engineering could benefit from a look at the impact of dam building on the Nile. Wachtendorf's (1998) insightful analysis of informal cross-border contacts during the 1997 Red River floods could probably be tested against data from

even find records about disadvantaged persons in the wake of previous Japanese earthquakes (see Urano 1998). One advantage of historical research is that before the use of modern telecommunications there are more likely to be written records. This is not to suggest that the authors have not thought of these comparisons–some said they had–but to point out that there may well be historical data on almost any subject.

What's this all to do with meteors? There seems to be a belief–it was certainly reflected in the driving forces behind the creation of the International Decade for Natural Disaster Reduction (IDNDR)–that technology provides the solution to our problems. The best way to counter that belief is to show that the way our ancestors dealt with catastrophic events, for the most part, differed very little from the way we deal with them and that there is little evidence to suggest that things will be different in the future. Henry Quarantelli (1991) suggests that the future will bring new and worse disasters. That does not mean society will cope with them more effectively, and this is partly because-as the evidence from Halifax shows–we have often neglected the lessons from the past. As Santayana's astute comment suggests, those who cannot remember history are destined to repeat it. By the way, the full French expression is, "Plus c'est change, plus c'est le meme chose." Translated loosely, it means the more things change, the more they stay the same.

There are those who might argue that recent developments in technology such as satellites and cell phones will change the way we deal with disasters. There is no evidence to support this belief. The recent ice storm that struck the Ottawa-Carleton area in Ontario showed that it was impossible to determine the extent of a number of failures except by direct personal observation. This was true for road sensors. It was true for traffic lights. It was true for gas. It was true for telephones and, above all, it was true in the case of electric power. In all these cases, the computerized telemetry systems failed (Scanlon 1998b). These problems were similar to what happened in Halifax in 1917. Power was out in most of the downtown area. The commercial telegraph system failed as did the railway telegraph link between the North End and stations near Halifax. Long distance telephone service was out. Although at first phones continued to work between Halifax and its sister city, Dartmouth, these also went out when a ship dragging her anchor cut telephone cables during the storm that followed the explosion.

In the future, as Quarantelli has predicted, there will be even greater problems. There will also be more complex failures, because systems are more complex (Perrow 1984). Each new technological achievement brings suggestions that it will act as a solution to future problems. The cell phone, for example, was to overcome the problems created by communications convergence. Yet

cell phones have already failed in dozens of incidents, including the ice storm. It might be easier to discount such enthusiastic predictions about future technology by reviewing the past. It might also be easier to feel comfortable about the ability of technical persons to deal with the millenium bug if there hadn't been so many overoptimistic predictions in the past.

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