

University of Delaware  
Disaster Research Center

Preliminary Paper  
#265

NOAH AND DISASTER PLANNING: THE  
CULTURAL SIGNIFICANCE OF THE FLOOD  
STORY

Russell R. Dynes

1998

NOAH AND DISASTER PLANNING:

THE CULTURAL SIGNIFICANCE OF THE FLOOD STORY

Russell R. Dynes  
Disaster Research Center  
Department of Sociology and Criminal Justice  
University of Delaware

Disasters are both interesting and infrequent. Thus, understanding them usually depends on stories others tell us. Such stories frame our understandings and imaginations. With those stories at hand, we comprehend reality and history on the basis of what everyone knows. At times, however, it is useful to examine what everyone knows.

To create a lasting narrative, disaster provides rich raw material to elaborate. "Natural" disasters involve universal, primordial elements- water, fire, the shaking of the earth. Beyond those physical elements, disasters elicit basic human concerns- death, injury, disruption, broken social relationships, and fractured hope. Ultimate values and meanings can be challenged. Continuity and permanence are challenged. Such crises can lead to new explanations and the reworking of old metaphors. The task here is to take a disaster story, the biblical flood- often referred to as the Deluge- and to examine its origins, its evolution, and its continuing impact within the Western World. In particular, the task here is to examine that story and to identify how it still affects our perceptions and actions within contemporary American society. More specifically, it will be argued that the flood story has had a continuing determinative influence on how disasters have been imagined in American society, especially in the ways that imagery has influenced emergency planning.

## DISASTERS AND THE WESTERN BIBLICAL TRADITION

For much of early human history, a short life span limited personal experience with disaster, unless it was the reason for the short life span. And the bulk of Western history has been pre-television. So, for most, experience with disaster had to come from stories. Over time, such stories were written down and became the custody of institutions which had reasons for keeping the stories alive. Certainly, the biblical tradition has been a rich source of disaster stories, particularly that shared literature between Judaism and Christianity usually designated as

the Torah/Old Testament. While those books contain many different stories, Genesis starts with a bang. Immediately after the story of Adam and Eve, and of Cain and Abel, there is a brief genealogical interlude before the opening story of Noah and the flood (Gen 6-9)<sup>1</sup> Soon after that "then the Lord rained upon Sodom and upon Gomorrah, brimstone and fire from the Lord out of heaven"(Gen. 19-24). "Now there was famine in the land, so Abram went down to Egypt to sojourn there, for the famine was severe to the land" (Gen. 12:10, see also Gen. 26). In addition to the Old Testament stories, two critical events in the New Testament accounts of Jesus- his crucifixion and his resurrection- had, as their backdrop, earthquakes (See Matt. 27:51 and 28:2). For those who enjoy esoterica, there is also another biblical stream of disaster stories which comes from the apocalyptic literature, detailing some major catastrophic events when evil is destroyed. Such stories have been given recent attention in the United States by new religious movements such as those led by David Koresh in Texas and by those in Heaven's Gate in California. Those events will remain outside our concern here since the focus is on the flood story.

## THE FLOOD STORY

It will be argued here that the Biblical flood- the Deluge- with the central figure of Noah, his family, and the ark and its inhabitants has provided the central cultural image of disaster for those in the Western World. That Biblical story is recounted in four chapters of Genesis (6-9), so it has been a part of the tradition of both Judaism and Christianity and it has come to be an integral part of Western culture, and in time a part of popular or mass culture. While the story is well known, some of its elements will be recounted here as a reminder.

Ten generations had passed since God  
sent Adam and God was displeased with

the results from the new inhabitants. There was one righteous man- the 600 year old Noah and God confided in him that He was going to create a flood and gave him instructions to build a wooden ark. When it was finished, Noah and his wife and their three sons and wives were to go on it and take a pair of every kind of bird, mammal and reptile plus provisions for them. With that accomplished, God shut the door behind them and the rain started and continued until the water rose above the earth's surface.

While the flood lasted a long time, God remembered Noah and his crew and brought the disaster to a halt and the ark came to rest on the mountains of Ararat. Noah sent a raven out to inspect the status of the earth but the raven did not return. Later, he sent a dove out and, on a later flight, the dove returned with an olive branch, indicating that the water had receded.

On God's instruction, Noah and his family came out of the ark with the other creatures. Noah built an altar and when God smelled the burnt offering, God indicated that, in the future he would not destroy all living creatures. In inaugurating a new world, God established a covenant with Noah, his family and all the creatures. This covenant was indicated by the appearance of a rainbow. To the survivors, God assigned tasks to carry out His intentions in the future.

It is suggested here that this biblical story framed disaster in ways which still persist today. Goffman (1974:21) uses the term "frame" to denote "schemata of interpretation that enable individuals to locate, perceive, and label that which happens in their life space and the world at large." Such frames organize experience and guide action by rendering particular events as meaningful. That basic frame was that the flood resulted from and created chaos but

that the appropriate response was to attend to God's command and He chose Noah to be obedient to His control.

The flood story contained the implications of the collapse of the ordered and predictable world, typified as chaos. The flood resulted in the destruction of everything, except the saving remnants contained in the ark. Outside the ark, people behaved badly, in part because they had fallen into evil ways but also in their panic to save themselves. There was a heroic figure, Noah, who was selected by God for his righteousness and for his obedience to God's controlling authority. There were several other themes which deserve mention here. The flood was seen to provide moral lessons- that wickedness evokes God's retribution. One of the recurrent historical themes has been that the flood story carries "hidden meanings"(Cohn, 1996). The precise meanings attributed to the flood varied over time and place. The story has been sufficiently flexible so that when one meaning was discredited, another usually emerged. The flood has become an important metaphor for renewal, starting over. When Noah left the ark and established a new covenant with God, that was symbolized by a rainbow. Although Adam and Eve and ten generations of descendants had created the mess which led to the flood, it was Noah, in his obedience and righteousness, that prompted the renewal.

The flood story in Genesis is only a starting point since, in different places and at different times, the story was aligned to be consistent with the cultural assumptions of the times. Flood stories were not unique at the time. The closest parallel to the Biblical story, and perhaps the primary source for it, occurred in the Epic of Gilgamesh, found in Mesopotamia. (For a comparison of flood stories in the Near East, see Baily, 1989, chapter 2.) That story, found as early as 7 B.C., was widespread over the Near East. In any case, Genesis and the flood story became a part of the written Torah of Judaism and of the Old Testament of Christianity, both traditions central to the development of Western culture.

## CUSTODIANS OF THE FLOOD STORY

One way to trace the transmission of the flood story within the Western world is to identify the actions of those who felt they had custody of the story and who had a responsibility for maintaining it and perhaps transforming it for their own purposes. The end product of that process has been that now the flood story is so embedded into mass culture within American society that the ownership of the story is so widely shared that it can be used for many different purposes. It should be noted here that most of the alignments of the story to fit different times and differ change particular notions of the disaster- people continued to act badly, resources were destroyed, those who were saved exhibited heroic and obedient behavior and order was eventually restored by being commanded by God.

The first custodians, after the biblical statement, were religious leaders who had access to the written story and who were in a position to tell it to others. They were, in Judaism, sages and rabbis who were asked to interpret the Torah and, in Christianity, church fathers who dealt with the task of transforming the Old Testament into support for the message of the New Testament.

Within Judaism, the flood story became both an account of the creation of the world and one chapter in the history of the Jewish people. In the Midrash Rabbah Genesis I (1983) which includes the rabbinical commentary on Genesis up until about the year 400, the primary concern was to identify and detail the behavior which caused God's displeasure and prompted Him to want to start over. Such behaviors were identified as robbery, idolatry, fornication, murder, and incest, which suggested that the disaster victims deserved it. Elsewhere, there was the suggestion that, when the door of the ark was shut, the ark was surrounded by wild animals and by perhaps 700,000 people who were not invited on the ark (Lewis, 1968, p.141). As the rain started, those outside the ark panicked and tried to get in and the wild beasts killed the people.

There was also an interpretation that those outside the ark found themselves in boiling water, perhaps to make their fate equivalent with the fire and brimstone which later fell on Sodom (Ibid, p.142).

Much of the rabbinical commentary centered on the character of Noah. He was portrayed as a "righteous" man chosen by God to take the responsibility of the ark. Also, discussion centered around whether his righteousness should be judged by comparing him to others in his generation, suggesting a rather low standard, or whether his righteousness needed to be judged by some higher absolute and, because of that, God rewarded Noah with the responsibility of the ark. So rather than being preoccupied with the "details" of the disaster, in early Jewish history, the major focus of the flood story centered on Noah, as a link to Adam in the past and Abraham in the future. Noah became a critical figure in the continuity of the Jewish people. Within the Jewish tradition, the flood story never became problematic since Noah was a part of a succession of leaders which carried on the Jewish tradition.

Neither in early Christianity was the flood story especially problematic. Christianity, in time, had to differentiate itself from Judaism. This was done by an interpretative device, usually called typology, which has been used in various ways over the entire history of the Christian tradition. That is, that Old Testament stories of persons and events could be seen as anticipating Jesus Christ or in predicting doctrines of the Christian Church. In this interpretative scheme, Noah was transformed into a believing Christian because he obeyed God. Also, Noah could be seen as a type of Christ since he had founded a new universe. In similar fashion, the ark could be seen as the City of God and/or the one true church. The different rooms in the ark then could be occupied by those who were at different stages of spiritual progress. (It does not require a vivid imagination to realize that upper decks were premium locations.) The flood was seen as a message for all people, not the exclusive property of the Jewish people. The flood pre-figured



the end of time, the day of judgment, and the return of Christ. The water was seen as baptism which purified sin.

It should be clear then that, in early Christianity, the Old Testament was read allegorically rather than literally. Many of these themes were present in early religious art since the Christian church also became a means of support for artists. Perhaps most familiar would be Michelangelo's frescos on the ceiling of the Sistine Chapel where nine segments based on Genesis are displayed. Three of these are on Noah, including one specifically on the Deluge. In time, religious leaders lost their exclusivity in maintaining the flood story, either through commentary, typology, or in symbolic statements, such as painting.

Shifting the custody story ahead to England in the seventeenth and eighteenth century, there were a number of indications that the Christian religion was losing its grip as being at the center of Western culture. The Bible was removed from primary control of religious leaders when the King James version was published in English in 1611. Now the story in its written form was available to every literate person. Since many of the educated elites in England could read Greek, Latin, and some Hebrew, the flood story could be examined in context. When Protestants sought to replace the authority of the Church with the authority of the Bible, the flood story regained attention and new interpretations. The English Enlightenment led to a revival of typology by a number of writers, many of whom were becoming aware of stories and myths outside the Christian tradition. Writers and poets such as John Donne, John Milton, William Blake, Jonathan Swift, Samuel Johnson, and Daniel Defoe often wrote in allegorical and typological fashion based on their knowledge of traditional Biblical themes and their audiences likely understood them (See Korshin, 1982 and Galdon, 1976).

Several other developments affected the interpretation of the flood story. The awareness of new lands and peoples outside the Christian world raised a number of new questions. Was the

flood universal? Did God know about these other lands when the flood occurred? How was it that new strange animal species were being identified in other lands and, if they were not on the ark, how were they saved? Were there flood stories in the new lands being discovered? Was the time chronology given in Genesis an accurate accounting of the timing of the origins of the earth?

During the 17th and 18th centuries, there were some changes in parts of the flood story, especially when questions were raised about the flood's explanation of creation and, with the development of the nation state, the explanation of the disaster being a consequence of God's punishment. During the Enlightenment, new conceptions of nature, operated by impersonal laws, were being developed. Many of these ideas were not seen to be in opposition to religious interpretations. In fact, many of those involved were members of the Church of England but felt that God's laws could be explained by rational inquiry, rather than blind faith. Also there was a developing notion that, while Biblical stories, now more readily available, could be read literally, it was possible and necessary for elites to read between the lines. One landmark book, published first in 1691, was Thomas Burnet's Sacred Theory of the Earth, which tried to reconcile the flood story with what was beginning to be known about the geology of the earth. Burnet's book, now viewed as pre-scientific, attempted to reconcile religious interpretations of Genesis with emergent science. Such interpretations were then generally accepted as constituting no religious threat. However, several centuries later among Protestants in the United States, that issue became the center of the fundamentalist/modernist controversy. (For greater detail about the impact of Burnet, see Rossi 1984, Cohn, 1996.)

In addition to increased scientific understanding, another development of the time, the emergence of the modern state and the secularization of political power, did affect one implication of the flood story. The notion that disasters were a direct consequence of God's

punishment was undercut<sup>2</sup>. During this period, Europe, especially Northern Europe and England, had been relatively free from major disasters but, when the Lisbon earthquake occurred in 1755, it became the center of much discussion among European intellectuals. (See Dynes, 1997) In what has been called the first modern disaster, there was an attempt to interpret the earthquake as a sign of God's punishment. This interpretation was rejected by state officials, not because they had a substitute explanation but they saw the explanation as a drawback to reconstruction which would have been impeded by passive actions of repentance. Too, in the early development of the modern state, many political leaders claimed kinship to God and saw themselves as more accurate interpreters of His wishes. The basic assumption of the flood story that disasters represented chaos which need to be responded to by a command and control could be easily transferred to political leaders, many of whom claimed lineage to ultimate authority anyway.

#### THE IMBEDDEDNESS OF THE FLOOD STORY IN POPULAR CULTURE

To make a detailed accounting of the current cultural significance of the flood would take us too far afield but only three indicators will be mentioned: first, the massive amount of literature concerning the flood which exists.; second, the persistence of enduring definitions in familiar cultural objects; third, the way certain types of cultural understanding are embedded in contemporary humor.

The literature devoted to discussions of Noah and the ark is enormous. Pegna estimated that, in 1954, there were 80,00 works in 72 languages (cited in Dundes, 1988, p.90). Such literature extends to many different fields including theology, geology, astronomy, comparative mythology, adventure, and the philosophy of science. (See example, Rossi, 1984 and Cohn,

1996) In addition, the flood has been a continuing theme for art, music, and drama.

Another indicator of the cultural impact of the flood story is the enduring definitions which certain cultural symbols have been given and which persist. As one example, the raven still has the reputation for being a devious untrustworthy bird, while the dove, with its olive branch, is still used as a symbol of hope and peace. Olympic opening ceremonies are climaxed with the release of such birds. Too, the rainbow celebrates the beginning of a new stage, a new covenant and a new relationship. All of these are understood without explicit reference to the flood story.

The extent of the imbeddedness of the flood story in popular culture is perhaps best measured by its continuing role in humor. That use implies that the story teller does not have to make explicit all of the assumptions or details to make the story understandable. For example, Mark Twain wrote a number of essays purporting to be diaries of Biblical characters. A manuscript labeled the “Noah’s Ark Book” never survived but fragments of the Noah story does survive from other “diaries”. Many of Twain’s comments related to concerns raised by evolution which was an issue at the time he wrote. At one point, Adam queried Noah on why he missed carrying dinosaurs in the ark. Noah’s response was that they were not on the cargo list; that his sons who loaded the animals would not recognize them anyway; and that, since dinosaurs were American animals, America had not been discovered at the time of the voyage. In another context, Shem, one of Noah’s sons, explained that the construction of the ark had been delayed because of a shortage of gopher wood and that the workmen had gone out on strike since they had not been paid. (See Baetzhold and McCullough, 1995.)

Much later, Bill Cosby developed several routines about Noah who had to explain to his neighbors in suburbia what he was building in his driveway. Also, Noah complained about all the work he had to do building the Ark and was ready to quit. God asked Noah how long he

could tread water.<sup>3</sup> In addition to the use of the flood story in written and spoken humor, it has been equally adaptable to visual humor. Baily (1989) reported that, in collecting cartoons from both ecclesiastical and secular magazines, “It appears that only Adam and Eve, Noah, Moses and Jesus have sufficient name recognition to make the scene. Of those, Noah received the largest measure of attention.” (p.3) It is possible for a magazine to print a cartoon without a caption depicting a dove delivering pizza to the expectant crew of the ark and assume full understanding.

The flood story then exists as an integral part of contemporary American culture. It is no longer in the control of religious leaders or cultural elites. It has become democratized to be used by anyone who finds it useful. In certain ways, it might be considered the model for a rather universal projective test since it deals with sin, crime, death, heroism, family relationships, plain and esoteric animals, hope and the future. Most stories have rather simple and restricted themes.

## THE FLOOD STORY AND U.S. DISASTER PLANNING

One place where the flood story has persisted has been with cultural notions about the nature and directions of emergency planning. While some of the elements of the story have been modified over time, other dimensions of the flood story have been generalized to a wide spectrum of natural disaster agents-hurricanes, earthquakes, tornados, volcanic eruptions, etc. In other words, while the initial story involved a specific agent- a flood, over time the story was generalized to “all” natural disasters. Such occasions are seen to typify the destruction of social order. There is the assumption that people behave badly in such situations and need authority to behave appropriately. With the destruction of resources and the incapacity of victims, this necessitates external intervention. With such intervention and with episodes of heroic behavior, it is possible to reestablish order and this marks the end of chaos and the beginning of renewal.

Those themes can be illustrated anecdotally. On the evening of the first day of Hurricane Andrew, Kate Hale, Director of Emergency Management for Dade County, Florida was quoted in the following way: "Where the hell is the Cavalry on this one? We need food. We need water. We need people. For God's sakes, where are they?" (Miami Herald, 28 August 1992). This plea can be read in the following manner- everything in chaos, everything is gone, we need outside help and we need external authority, for God's sake and for ours. Such a plea was widely understood because it fit existing cultural assumptions about "what happens" in disasters.

Another way to look at the influence of the flood story is to examine the social and cultural assumptions which underlie disaster planning in the United States. (See Drabek, 1985, Drabek, 1990, Dynes 1995) One way to determine this is to examine planning documents which are prepared to guide actions in emergency situations and to infer models which guide those who prepare such documents in the importance given to particular tasks. Such documents are usually written by local officials and citizens with the assumption that they wish to prepare for some event and that they know what will happen in that event. Emphasis can be determined by the amount of space given to a particular themes as well as the lack of attention to others. There is no implication here that one particular model will dominate a single document. In fact, several different models are likely to be combined, usually inconsistently, within a single document. The construction of the models here is based on an examination of local disaster plans in the U.S. over the years. The models were not originally constructed to emphasize any continuity with the flood story but it is obvious that some of the models do have considerable continuity in their assumptions. While six models were initially identified, only three of them are included here. (The three excluded were designated as the agent facts model, the big accident model and the administrative model. The original source is Dynes, 1995)

The End of the World Model. To a certain extent, this is an extension of the big

accident model carried to its extreme, usually associated with nuclear war and more recently, nuclear power plants. It assumes massive destruction producing casualty rates in excess of the resident population and incapacitates almost all emergency personnel. For some, the model leads to the conclusion that any emergency planning is impossible. To others, there is the effort to save some remnant for a fresh start. Planning efforts usually focus on dealing with mass casualties, moving people out of harm's way, teaching individual survival skills and providing selected officials with bunkers. The emphasis is on assuring the continuity of government which would reestablish social life. This process would only be effective by command and control.

The Mass Media Model This model is complex and probably subsumes several subtypes: the Titanic model, the Raging Inferno Model, The Twister Model, The Asteroid Model, etc. The continuity among the various subtypes, however, is the assumption that disasters are characterized by traumatic changes in the behavior of "victims". Consequently, people cannot be trusted to behave rationally, except a few heroic individuals who probably wrote the plan. This model implies that civil society is very fragile and the disaster is likely to hasten the descent into irrational, deviant and unlawful behavior.

Given that model, details of appropriate emergency behavior needs to be devoted to issues of security and the mobilization of emergency workers. The motivation of such workers is problematic since many people will be rendered impassive or seek to avoid responsibility. In general, the media model is individualistic and anti-bureaucratic. Its scripts point to episodes of individual victimization punctuated with celebrations of heroic behavior, overcoming odds and bureaucratic sloth. The media model slights organizational preparedness in the expectation that the most effective response will come from "strong" people. It can be easily combined with the next model.

The Command and Control Model This model, of course, historically has had a significant impact on emergency planning because it can be easily combined with other models. It incorporates the assumption that emergencies are quite different than usual social behavior evidenced during "normal" times. It assumes consistent with the media model that the emergency period is characterized by social chaos and is marked by rather irrational social behavior. This is prompted by the loss of ineffectiveness of traditional social control agencies. Since emergencies produce weakness in individuals and social structure, the goals of emergency planning is to establish command over the chaos and regain "control" of the disorganization of individuals.

This model has a number of implications. First, that ordinary (civilian) institutions generally are incapable of functioning effectively and that families and voluntary organizations are, in large part, irrelevant for emergency action. This means that outside help is likely to be needed and/or that paramilitary organizations, which can quickly assume command and control are the effective in emergency situations. Too, since civilian institutions are weak and break down, the most critical task to be solved by emergency planning is re-establishing "command." So, in many planning documents, a great deal of effort is given to specifying emergency "authority." Since authority in the pre-emergency

community is multi-dimensional, the effort to make it unidimensional in emergencies can create community conflict. The usual resolution is for organizations directly involved in the planning process to cede themselves greater authority than other organizations are likely to accord them. However, those claims are usually ignored in an actual emergency. The goal of unidimensional authority is closely related to a notion that decision-making should be centralized, because heroic individuals are likely to be found in small groups at the top. Given that assumption, the desired form of emergency communication is down the authority structure. Such messages are intended to be official instructions to an uninformed and passive population. There is also the notion that “spontaneous behavior,” behavior not covered in the plan, is misplaced, misdirected and harmful. In general, then, the command and control model is predicated on the assumption that pre-emergency social structure is weak and ineffective so that details about lines of authority and communication need to be spelled out. There is a distrust of spontaneous action which is seen to undercut planning. The command and control model is still normative for much current planning efforts, in large part because community emergency planning historically emerged from a parallelism with war and, from the fact that many civilian communities assumed that those with military experience had relevant skills to plan for civilian populations.

Much of the thinking concerning emergency planning in the United States emerged out of World War II civil defense assumptions and experience. The flood story fits well with the assumptions of the military model. By contrast, it has been argued that the cultural assumptions of chaos, command and control should be replaced by the more appropriate guidelines for the community problem solving, necessary in disasters.<sup>4</sup> Some of those ideas are expressed in the following “after action report” which has been recently discovered. Of course, the report depends on secondary sources. It can be argued that, since no original data sets on the flood have been discovered in various archives, this supports the view that the flood was universal. One should note that the report has been organized in a fashion which anticipates current thinking to view disaster not as an isolated response but as a social process involving mitigation, preparedness, response and recovery. In Biblical terms, the after action report is a newer testament.



## AFTER ACTION REPORT

Incident: Flood also known as the Deluge

Date: at least B.C. and B.C.E, at time no Western calendar

Place: Someplace in middle east, but spread

Data Sources: Secondary

Introduction: This mandated report concerns the activity related to the disaster which is variously known as the Flood or the Deluge. Considerable attention has been given in the media to the uniqueness of this event. Historical records of NOAA (National Oceanic and Atmospheric Administration) do not record it, but, that year, funding was cut. Other records suggest its uniqueness because there are no records.

Floods seldom destroy every community resource. Instead they usually affect basements in flood plains and temporarily disrupt transportation routes. Nor do floods usually evidence high death or injury rates. Usually, there is a low death rate by drowning and an almost non-existent injury rate. By some media accounts, the death rate of 700,000 plus livestock seems astounding and certainly justifies the ongoing governmental inquiry.

Mitigation: Based on our inquiry, there was little evidence that there were adequate mitigation practices initiated prior to the flood. It was reported that there was a significant increase in deviant behavior as a precursor of the flood. While this is a common causal assumption made by older men with shorter memories, without good social indicators, it is impossible to conclude that such behavior had been increasing over ten generations. The primary evidence has been anecdotes provided by a few rabbis. Nor was there any evidence that the thresholds were exceeded to prompt God's action. Nor was there evidence of mitigation and preventative programs, initiated prior to the flood by either governmental or non-governmental agencies.

This suggests that programs, involving both structural and non-structural mitigation efforts, should be mandated to help reduce a high death rate in the future.

Preparedness: In contrast, preparedness activities, especially by Noah, should be praised. The ark was a major accomplishment by someone with little boat building experience. While some of the criticisms documented by the building permit file are valid, others seem petty. The requirement for a sprinkler system in a boat to be operated in a flood seems excessively bureaucratic. The absence of life rafts for larger animals is not problematic in a universal flood. Where would they land? There is agreement that greater attention should be given to sanitation issues and staffing the emergency veterinary clinic. The pledge of the animals not to have sex on the ark, mentioned by several rabbis, seems undependable, especially since pregnancy tests were not given prior to loading. There are legitimate questions which can be raised about the cargo. A better set of priorities should have been established since a number of exotic animals, usually found in zoos, as well as animals now found on the endangered species list were included. The current controversy over the definition of "endangered" species could have been avoided if a more sensible criteria for loading had been established. In spite of these criticisms, Noah should be given high marks for the construction process, especially with the chronic shortage of gopher wood and the days lost to the strike.

By contrast, a number of legitimate criticisms can be made about the warning process. The warning God gave Noah was along a single channel and ignored the 700,000 people outside the ark. An adequate warning system requires the use of many different channels to encourage both formal and informal communication. And extra effort is usually needed to reach special populations, such as minorities, disabled, and those outside the ark. The oversimplification of this complex process accounts for the high death rate. The complexities of warning is

underscored by the fact that Noah himself ignored God's warning for 120 years, even though it came on a direct channel and the message was personalized.

While Noah has received considerable adulation in the media for his leadership, it is not clear that his righteousness and obedience are necessarily the most appropriate qualifications. It would seem that previous maritime experience might be more appropriate, even though that was a skill hard to come by in his location. His success in leadership was built on his family position but it does not follow that he would have the same success with a non-kin crew. Noah's use of the raven and the doves for reconnaissance missions suggests some deficiencies for a successful disaster manager. Heroic behavior does not compensate for his lack of knowledge of existing electronic surveillance technology. Too, we do know from his post flood behavior that Noah drank too much. Even though the wine supply on board was probably diluted, one should recall the consequence of the Captain being drunk on the Exxon Valdez.

It would also be the judgment here that the common image of Noah's heroic behavior is, in part, derived by ignoring the activities of other family members. A 600 year old man could not have performed all of the necessary tasks without significant help from his wife, his sons, and their wives. It is a comment on the times that the names of the wives have not been passed on with any certainty. This illustrates two points. First, throughout history, there has been gender bias in disaster reporting. Second, what is identified as male heroic behavior is usually the product of collective family effort.

Response: While the preparedness efforts of building the ark can be commended, it should be recalled that Noah's successful response to the flood waters was accomplished by ignoring everything outside the ark. He did not have to mount a search and rescue operation since evidently he had accepted the idea that those outside the ark were not worth saving. It is unlikely that wickedness could be used as a criteria for exclusion today. It would not be

politically feasible since it might include top political officials.

Based on research, it is known that refugees do not like to go to public shelters. Instead, they prefer to seek shelter with relatives and friends. Since Noah only sheltered his family, that avoided one problem. On the other hand, while no relevant research has been done, it is possible that different species of animals would have the same reluctance to occupy public space, especially for a year.

Ignoring the situation outside the ark minimized other conventional problems. If the flood was universal, that meant that it covered many different tribes, principalities, and nations, and thus there was little opportunity for the emergence of intergovernmental or interorganizational conflict. Thus, the success of this disaster operation was, in part, due to its isolation, separation, and withdrawal from the known world. These conditions are no longer probable in a global economy, nor would they be politically feasible.

The response could be judged successful because of adequate preparations and absence of many traditional tasks, such as search and rescue, infrastructure repair, providing food and shelter for survivors, and maintaining municipal services. One should also recall that the response period

was brought to an end when God "remembered" Noah. That underscores one of the major risks of a single authority, forgetfulness.

Recovery: There is considerable evidence that the post flood recovery was successful. It was what in Bangladesh they call a good flood, since the land is made more fertile. This is also consistent with research that, in some cases, new resources are often greater than the losses. (Also, in this case, it is obvious that the drowning losses were considered to be gains.)

For Noah, the fact that he lived 350 years after the flood and became the "first tiller of the

soil" (Gen. 9:20) when he planted a vineyard suggests both economic and physical health positive effects. Too, Noah entered into a new security relationship with God. That covenant required the children of Noah to be "fruitful and multiply." That both the economic and population base increased created the resource base which sustained the subsequent world population.

Another point to be emphasize which might have been important in the recovery is the altar Noah built immediately after he got off the ark. Historically, celebrations of renewal after disasters are common. While some mental health officials claim that self-images are reaffirmed in such rituals, it is perhaps more important to encourage what might be one of the few inclusive collective rituals left in the world.

Given the extensiveness of the flood, there was no extraordinary effort devoted, in housing reconstruction, to repair and retrofitting. Given the building codes of the time, simplified construction for new housing became normative and no significant mitigation effort put into place. Perhaps the new covenant with God reduced the perception of future risk among Noah's family members.

Summary: While there was little mitigation effort prior to the flood, rather high marks should be given for the preparedness measures, especially building the ark. While the emergency response was adequate, this response ignored many of the tasks which are usually present during the emergency period. Recovery, especially economic recovery, was successful. There was little effort to initiate mitigation to reduce the consequences of a future flood.

The flood has often been used in training courses to depict "chaos" as a usual condition of disaster and argue the necessity for command and control as the appropriate mode of response. Traditional stories, however, can often be used to illustrate quite different ideas. It is widely believed that those outside the ark behaved badly, chaotically. This theme has often been

vividly portrayed by artists over the centuries. One can argue, however, that such behavior was less the result of the flood itself than it was by the awareness of condemnation by those outside the ark when God closed the door. Subsequently, many have argued that the wrath of God is not a sufficient cause for chaotic behavior, but only an inadequate theological concept. By contrast, the Noah family illustrated the continuity of existing familial relationships, which is a more adequate prediction of responsible behavior in an emergency.

It can also be suggested that the emphasis on God's ultimate authority is less a product of God's actions at the time but more a consequence of assertions by later religious leaders intended to enhance the validity of their ideas in competition with other ideologies. For emergency management purposes, such enhancement is not necessary since artificial authority is still artificial.

While much has been made of Noah's obedience to God, the story actually suggests that Noah had considerable autonomy in his response, especially in his year alone in the ark. It should be recalled that only at the end did God remember Noah. Noah's authority stemmed more directly from his position as head of family, as did his reputation for righteousness. It is obvious that the Noah family developed cooperative relationships and, with such a small crew, a division of labor developed around the necessary tasks rather than on the basis of some "artificial" authority. One can also infer that even the animals exhibited cooperative relationships since herding certain species in orderly fashion defies expectations.

So the flood story can be read as a lesson in problem solving, rather than an exercise in the expression of authority. Noah was involved in anticipating, perhaps reluctantly, a set of projected problems, organizing a response, and mobilizing a recovery which assured the continuity of social life. That perhaps is the central message of the story. It is not that disasters create the conditions producing irrational behavior. It is not that authority will ensure rational

action. It is not that people have to be commanded and controlled in such situations. The message is that even in the most difficult situations, preparation can lead to innovative problem solving, and survival is more closely associated with creativity and innovation than it is with authority. Good planning should maximize creativity rather than lead to control. The after-action report is concluded.

#### POSTSCRIPT- METAPHORS FOR THE NEW MILLENNIUM

It may be that the symbolic value of Biblical stories has been reduced by increasing Biblical illiteracy. In contemporary America, the media presents visual imagery which is more vivid and perhaps even more threatening. It has not been the flood metaphor which has captured our attention in recent years, but incidents such as Chernobyl and Bhopal. And God has less to do with them. Those risks are seen to be the result of a conspiracy between political and economic leaders. At its core, the idea is that we have become victimized by the modern society which we have created. With God only minimally involved, there is still the need for secular repentance. To achieve our utopian dreams, we are often asked to restrict those institutions and to destroy the conspiracy which threatens us.

Several authors (Beck, 1992, Douglas, 1973) have suggested that, at different points in history, different issues become the focus of our attention. Out of past political struggles, there has emerged considerable consensus on forms of government which emphasize democratic values. Too, out of past struggles, there is considerable consensus on economies of the free market. Some suggest now that perhaps the next battle ground will be on the environment and issues relating to technological risk.

When we see Chernobyl or Bhopal portrayed, we see similar things, even though those

situations are separated by time, place, and circumstances. We see greedy state planners in one place and greedy multinational planners in the other. We see low tech incompetence in one place and third world ineptness in another. We see ritualistic bureaucrats in one place and ritualistic bureaucrats in another. And all of this is presided over by insensitive, uncaring, and corrupt political and corporate leaders.

To deal with these risks, an easy solution is to limit the growth of technology. But this contradicts free market powers. And to limit would require enhanced governmental regulations and increased enforcement, which contradicts limited governmental powers. On the other hand, there are always new millenarists who promise green space, with clean air and water, located far away from the urban and industrial world, a place where economic and political institutions are impotent and irrelevant.

Given that contemporary vision of utopia, it still might be possible to adapt Biblical stories. Close to Mt. Ararat, where the ark landed, is a new garden of Eden. But that garden is no longer green after years of fertilizers and pesticides. The apples are now coated with Alar and trees are now withering from acid rain and ozone depletion. With God no longer around, responsibility still has to be assigned. Like the flood story, it's flexible since, depending on your political orientations, you have the choice of what to name the snake.



## Notes

1. All biblical references are from Revised Standard Version.
2. Of course, the notion of disaster as punishment is never completely absent. In May 1953, a large tornado struck the Waco-San Angelos, Texas area and 114 people were killed in Waco. A month later, the Rev. Billy Graham was quoted by the Waco Times Herald as saying "The storm shows what God can do if we do not repent. Out of the storm comes a message of warning to the 50 percent of Wacoans who do not attend church." (Moore, 1958, p.108).
3. Several of those routines can be found on Warner Brothers Records, No.1518, Bill Cosby is a Very Funny Fellow, Right!
4. The after action report is without detailed citation but assumes a knowledge of the existing social science literature. Sources which would provide details about the support for the text would be Drabek (1986), Lindell and Perry (1992), and Dynes (1994).

## References

- Baetzhold, Howard and Joseph B. McCullough  
1995            The Bible According to Mark Twain, Athens, The University of Georgia Press
- Bailey, Lloyd R.  
1989            Noah: The Person and the Story in History and Tradition, Columbia, S.C. University of South Carolina Press
- Beck, Ulrich,  
1992            Risk Society: Toward a New Modernity, London, Sage Publications
- Berger, Peter L. and Thomas Luckman  
1966            The Social Construction of Reality, New York, Anchor Books
- Blumberg, Hans  
1997            Shipwreck with Spectator: Paradigm of a Metaphor for Existence, Cambridge, The M.I.T. Press
- Burnet, Thomas  
1965            The Sacred Theory of the Earth, Reprint of 1691 Edition, Carbondale, Southern Illinois Press
- Cohn, Norman  
1993            Cosmos, Chaos and The World To Come, New Haven, Yale University Press
- Cohn, Norman  
1996            Noah's Flood: The Genesis Story in Western Thought, New Haven, Yale University Press
- Douglas, Mary  
1973            Natural Symbols, New York, Vintage Books
- Drabek, Thomas E.  
1985            "Managing the Emergency Response", Public Administration Review, 45:85-92
- Drabek, Thomas  
1986            Human System Responses to Disaster: An Inventory of Sociological Findings, New York, Springer Verlag
- Drabek, Thomas  
1990            Emergency Management: Strategies for Maintaining Organizational Integrity, New York, Springer Verlag

- Dundes, Alan (ed.)  
1988      The Flood Myth, Berkeley, University of California Press
- 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.  
1995      "Disastrous Assumptions About Community Disasters", Proceedings of the International Emergency Management and Engineering Conference, James Sullivan, Jean Luc Wybo, and Laurent Buisson, eds. Dallas, TX, TIEMEC, 25-28
- Dynes, Russell R.  
1997      "The Lisbon Earthquake in 1755: Contested Meanings of the First Modern Disaster" Preliminary Paper. No. 255, Newark, DE, Disaster Research Center
- Dynes, Russell R. and Kathleen Tierney (eds)  
1994      Disasters, Collective Behavior and Social Organization, Newark, DE. University of Delaware Press
- Dynes, Russell R. and Daniel Yutzy  
1965      "The Religious Interpretation of Disaster", Topic 10: A Journal of Liberal Arts", Fall 34-48
- Dynes, Russell R., E.L. Quarantelli and Gary Kreps  
1981      A Perspective on Disaster Planning, Newark, DE. Disaster Research Center Report Series, No. 11, 3rd edition
- Feldman, Burton and Robert D. Richardson  
1972      The Rise of Modern Mythology, 1680-1860, Bloomington, Ind. Indiana University Press
- Freedman, H. (trans.)  
1983      Midrash Rabbah-Genesis, Vol.1, London, The Soncino Press, 3rd edition.
- Galdon, Joseph H.  
1975      Typology and Seventeenth Century Literature, The Hague, Mouton
- Gastor, Theodor  
1969      Myth, Legend and Custom in the Old Testament, New York, Harper and Row
- Goffman, Erving  
1974      Frame Analysis, Cambridge, Harvard University Press

- Korshin, Paul J.  
1993 Typologies in England: 1650-1820, Princeton, Princeton University Press
- Lewis, Jack P.  
1968 A Study of the Interpretation of Noah and the Flood in Jewish and Christian Literature, Leiden, E.J. Brill
- Lewis, Jack P.  
1991 The English Bible: From KJV to NIV: A History and Evaluation, Grand Rapids, Mich., Baker Book House
- Lindell, Michael K. and Ronald W. Perry  
1992 Behavioral Foundations of Community Emergency Planning, Washington, Hemisphere Publishing Corporation
- Moore, Harry Estill  
1958 Tornadoes Over Texas, Austin, University of Texas Press
- Nelkin, Dorothy, (ed.)  
1992 Controversy: Politics of Technical Decisions (Chapter 10. The Creation/Evolution Controversy.), Newbury Park, CA, Sage Publications
- Neusner, Jacob  
1991 Confronting Creation: How Judaism Reads Genesis, Columbia, S.C., University of South Carolina Press
- Neusner, Jacob  
1994 What is Midrash? and A Midrash Reader, Atlanta, Scholars Press
- Quarantelli, E.L.  
1980 "The Study of Disaster Movies: Research Problems, Findings and Implications", Preliminary Paper No. 64, Newark, DE, Disaster Research Center
- Quarantelli, E.L. and Russell R. Dynes  
1973 "Images of Disaster Behavior: Myths and Consequences", Preliminary Paper No. 5, Newark, DE, Disaster Research Center
- Rossi, Paolo  
1984 The Dark Abyss of Time: The History of the Earth and The History of Nations From Hook to Vico, Chicago, University of Chicago Press
- Snow, David A., E. Burke Rockford Jr., Steven K. Worden, and Robert D. Binford  
1986 "Frame Alignment Processes, Micromobilization and Movement Participation", American Sociological Review, 51, 464-481

Turner, Ralph H., Joanne M. Nigg, and Denise Heller Paz  
1986      Waiting For Disaster: Earthquake Watch in California, Berkeley,  
University of California Press

Wenger, Dennis E., James D. Dykes, Thomas D. Sebok, and Joan Neff.  
1975      "It's a Matter of Myths: An Empirical Examination of Individual Insight  
into Disaster Response", Mass Emergencies, 1:33-46