



Fantastic Safety

By Lee Clarke

When I wrote Mission Improbable I could not have dreamed that the ideas in it would be useful in illuminating something so horrific as the terrorist attacks of 11 September 2001. But then, that's the nature of worst cases—they're beyond imagination, sometimes even dreams. Several of the key notions in the book are particularly relevant for understanding both how badly prepared we were and for understanding the response. Since September 11 it has become clear that the book is relevant for understanding some of the response to the anthrax attacks as well. It is the fate of the disaster specialist to profit when the world folds in on itself.

Mission Improbable's main argument is that under conditions of high uncertainty managers, officials, and experts (in shorthand "organizations") become highly likely to produce promises they can not keep. Those promises are sometimes made formal in written plans, at which point they become what I call "fantasy documents."

Most organizational plans are fairly functional. We make plans for a strategic initiative, a new marketing campaign, or to comply with regulatory requirements. Quite a lot of the time these plans work well as ways of organizing resources to accomplish tasks. The reason for that is that they're based on meaningful experience with the problem

Continues on Page 2

PHOTOGRAPH: Smoke continues to rise from the wreckage of the World Trade Center as the landmark Woolworth tower stands lit in green in the background at the site of the World Trade Center disaster in New York City, October 4, 2001. © REUTERS 2001.

at hand. Plans for expanded production can't guarantee market success, of course, but good, experienced managers do know how to write them so that they don't make outrageous claims.

But sometimes managers have to make decisions and plans without benefit of any relevant experience. Imagine having to build contingency plans for the containment of ten million gallons of oil. That's one of the cases in *Mission Improbable*. It had never been done before, but oil company managers in Alaska had to do it anyway. As they made their plans they ended up making promises that were impossible to keep. They would come to regret those promises, because in the political disaster that followed the Exxon Valdez accident they were pilloried for making unrealistic claims.

When organizations face a great deal of uncertainty it must be lessened if managers are going to be able to do their jobs. Fantasy documents help in that regard because they help make it seem as though everything is under control. The problem is that the control may well be illusory. Following is an expansion of the argument, edited somewhat from two sections in *Mission Improbable*. After that are a few remarks regarding the terrorist attacks.

Creating Fantasy Documents

The classic argument about planning and uncertainty is that they are inversely related: the more planning, the less uncertainty. This is so because more planning means decision makers have collected more information and made more benefit-cost deliberations than is the case when they do not plan. When investment houses diversify a portfolio they reduce the uncertainty of the market by spreading it around among different financial instruments. When the Nuclear Regulatory Commission specifies in fine detail the licensing process for a new plant it reduces the uncertainties of political conflict, law suits, and technical argument. When schools track students according to their presumed level of math or English ability they reduce the uncertainty of their raw material (students) by doling out the variability to different organizational units.

Put differently, what happens is that uncertainty is transformed into risk. Let me explain that. Explaining the usual conception of rationality in their classic

book *Organizations*, James March and Herbert Simon said that risk is when there is "accurate knowledge of a probability distribution of the consequences that will follow on each alternative" and uncertainty is when "the consequences of each alternative belong to some subset of all possible consequences, but...the decision maker cannot assign definite probabilities to the occurrence of particular consequences." More directly, risk is when you know the possible range of things that may happen following a choice, uncertainty is when you don't.

...that's the nature of worst cases—they're beyond imagination, sometimes even dreams

Risk in its general form is when it is possible, at least in principle, to estimate the likelihood that an event (or set of events) will occur; the specific forms of those estimates are the probabilities of adverse consequences. Uncertainty is when such estimations are not possible. We can, for example, know the risk of divorce for first marriages, but whether any given couple will divorce is uncertain.

When organizations analyze problems, they try to transform uncertainties into risks, rationalizing problems previously outside the realm of systematic control. Such processes sometimes take the form of cost-benefit calculations, profit and loss algorithms, or any method that entails explicit estimation of future probabilities. For example, Ford Motor Company relied on a formal risk analysis when it declined to spend an extra \$11 for gas tanks that would not explode and burn after crashes at 25 miles per hour in 1970-1977 Pintos. Ford's analysis clarified the tradeoff between revenue and safety, converting the uncertainties of Pinto failures into the risks of lawsuits and regulatory judgments.

The organizational urge behind these transformations is part of the characteristic drive for rationalization in modern society.

At one level, this urge reflects a societal-level expectation that organizations should be able to control the uncertain, and be able to respond effectively to the untoward. For their part, organizational leaders rarely admit that uncertainties may not be tamed by a rational calculus, unless they are trying to avoid responsibility for something. There are pressures from without, and promises from within, that managers subjugate time and chance—the two most difficult moments of uncertainty—to schemes of classification and command.

Yet time and chance conspire against readiness. Effective uncertainty-to-risk transformations are inextricably bound to the past, because reliable predictions must be based on experience that is properly interpreted. A major fault of the infamous 1975 Reactor Safety Study by the U.S. Atomic Energy Commission (The Rasmussen Report) was a dire lack of experience on which to base predictions of reactor failures. Managers can thus be charged with the onerous task of effectively transforming uncertainty into risk, even without sufficient experience or a conceptual scheme appropriate for interpreting history. This problem is especially critical for organizations whose failures may entail catastrophe.

If we arrayed problems faced by organizations along a continuum of clear to obscure, many would fall closer to the terminus of clarity. Those are the problems most amenable to functional planning, and indeed standard operating procedures are usually written for them. Few indicators of rationality are more useful to organizations than written plans.

Mission Improbable explores the obscure domain: problems for which there are no solutions, and for which there will be no solutions in the foreseeable future. My main cases were evacuation plans for civilian nuclear power plants, nuclear war civil defense plans, and contingency plans for major oil spills. Note that just because some problems are wrapped in high-uncertainty doesn't mean organizations don't plan for them. With those plans, however, operational utility is far less likely than symbolic utility.

Fantasy Planning

Functional planning is what we usually think about when we bother to think

Continues on Page 3

about planning at all. Individuals and organizations expend considerable strategic energy in making functional plans that realize interests, utilities, or profits. But there are cases where the plan and the planning process themselves are the function. Sometimes organizations collect information but don't use it, or use their very collection efforts to signal that they

can be anything from a claim about some mundane activity that will happen tomorrow (e.g. an appointment book) to a claim that super-knowledge allows experts to make decisions about a very vague future (e.g. the US Department of Energy's plans to bury high level radioactive waste safely). In any case, language, and hence a plan, is meaningful when it is shared.

Some plans then are much more than blueprints for future action, they are also rhetorical devices used in campaigns of persuasion. Symbolically, plans are public declarations that planners, or planning organizations, have deliberated carefully about some problem and have developed the requisite wisdom and power to establish dominion over it.

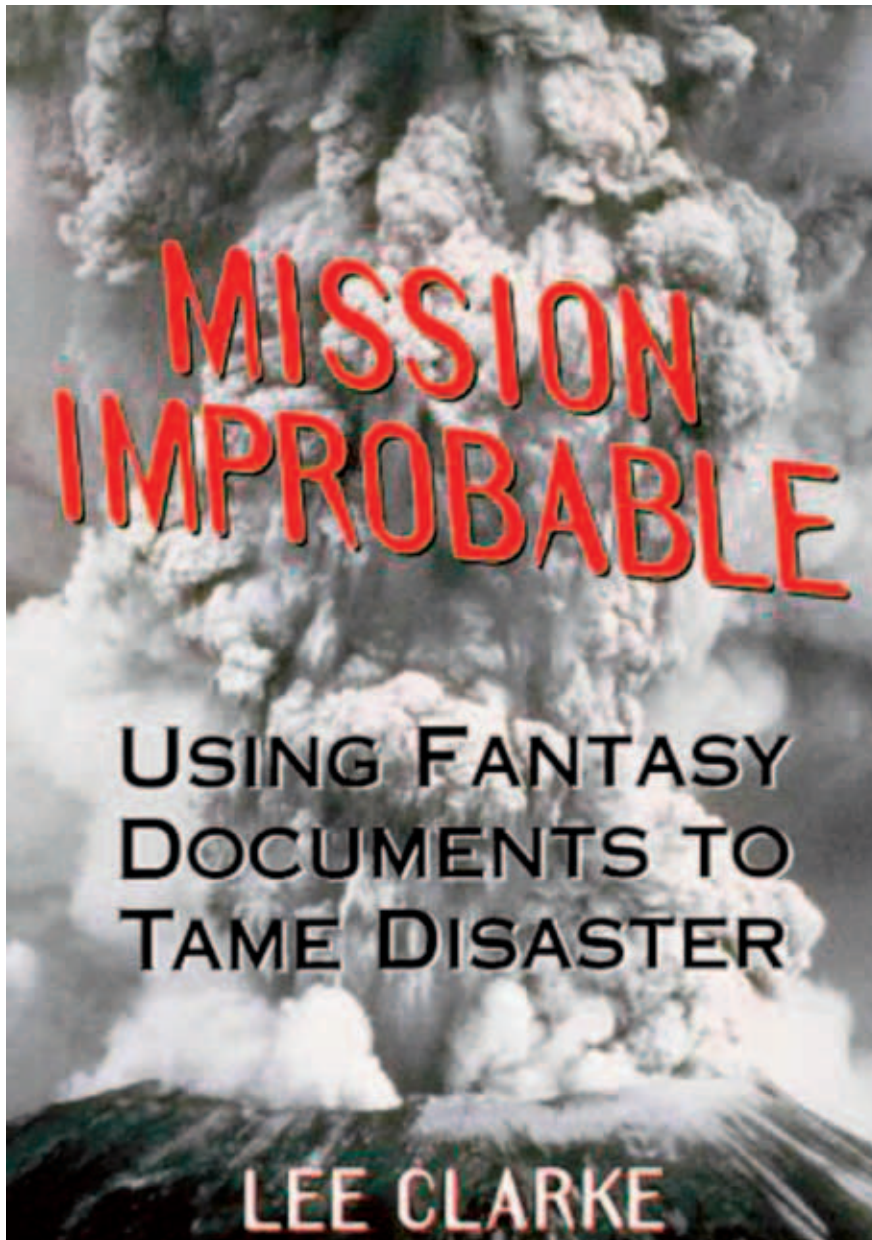
To make a plan is to claim expertise because planning, especially high-technology planning, requires that organizations and experts lay claim to mastery and thoughtfulness about some issue. Since claims to expertise are always claims that somebody should be left out of the decision loop, planning is deeply, unavoidably political. This little-noticed, almost invisible political character of planning is something that figures prominently in *Mission Improbable*.

So fantasy documents are rhetorical instruments that are useful for reducing uncertainty for managers and experts. But uncertainty about what? The key uncertainties that fantasy documents are trying to turn into risks have to do with how future events will evolve, and how future actors will respond to those events. Fantasy documents are thus based on an underlying sociological theory of events, meanings, and behaviors. Fantasy documents, generally, are not constructed to deliberately dupe various audiences (though they can have that effect) but are more prosaically rooted in organizational processes that are endemic to modern society.

Mission Improbable tells stories of how some plans are created, used, and fought over. Those stories in turn tell us some things about symbolism, rhetoric, and rationality in modern, beautiful, horrific, bureaucratized societies. The pattern, in general, is for officials and organizations to be confronted with opposition to their initial plans and goals. The result of that interaction is a cognitive transformation of an unknown or unmanageable thing into a known or manageable thing. Each of the three main cases in the book—civil defense plans, oil spill plans, nuclear meltdown evacuation plans—offer lessons for how we think of planning, prediction, and persuasion.

In spite of warnings, intelligence, and governmental commissions that predicted major terrorist attacks on the United States our leaders and organizations were lulled

Continues on Page 4



are doing something about a problem. Sometimes planning is useful mainly in a symbolic way, the plans representing something other than a real capability to imagine the future and prepare for it.

Plans are a form of language, a way of communicating some thing. That “thing”

Language must be directed at someone else and that someone must share the meaning if what is being communicated is to be more than incoherent gibberish.

So planning is an inherently interactive, social process. As books, speeches, and curses are directed at others, so are plans.

into complacency about preparedness. Their plans told them to look to the borders and the heavens, so they concentrated on immigration control (which also failed) and a space defense shield. In spite of the World Trade Center bombing in 1993, there was no good contingency plan in place for evacuating the complex. Indeed after the first plane struck the North Tower, officials in the South Tower were telling people not to evacuate because the building was safe. That so many evacuated successfully was because they were following their gut instinct to get out, and not because a contingency plan directed their actions.

Trustworthy plans always involve expertise, and good expertise always involves a lot of meaningful experience. In the absence of that experience we're more likely to get over-promises and fantasy documents. The hallmarks of fantasy documents are: statements of great certainty in highly uncertain conditions, appeals to authority and their corollary admonitions not to panic. These hallmarks are usually attended by powerful organizations trying to stifle arguments of others who may not share their views.

Here are just a few examples. President Bush, soon after the initial attacks, urged us to "Make no mistake about it - we will win" the war on terrorism. Such a statement is clearly an over-promise. A noted bio-terrorism expert reminded us that "There's a greater risk of dying on the highway than from exposure to anthrax." It's typical to see this sort of downplaying of risk. Even if it's in some way objectively accurate, it's irrelevant to talk about highways in this context. And after the first pulmonary anthrax case was diagnosed (the man subsequently died), Florida's Lieutenant Governor says that "There is no reason to think that this incident is anything other than what we have seen in the United States over recent years." What the Lt. Governor didn't mention was that there had been zero such cases in the last 25 years.

What shall we make of such statements? In one sense it's too early to tell (my previous remarks about the close connection between experience and prediction also apply to social science).

But we do have experience with fantasy documents and over-promising. The theory in *Mission Improbable* counsels the following:

- Organizations should be as forthright as they can about their mistakes. Sometimes this isn't possible. The threat of lawsuits seems omnipresent. But managers and organizations need to not let the attorneys cow them into submission automatically. There is usually more than one option. Finding options often takes creativity and skill. But that is what good managers are supposed to do.
- When plans for the untoward are made, make a concerted effort to include a broad array of voices, because doing so increases the chance of broadening and deepening the kinds of imagination that will be brought to the task. Closing off imagination and conflict is one of the surest ways to help make a fantasy document.

- Be honest with people, especially about the things you don't know. When leaders say things like "there's no reason to panic, everything's under control" people know it's a vacuous attempt to reassure them. People are not panicked by information, even if the news is bad. Nor do they expect leaders to know everything. But they become concerned and suspicious when they think leaders are holding back or covering up. Honesty about one's own ignorance can be tough, but it's the smart way to go.

The edited excerpt from *MISSION IMPROBABLE: USING FANTASY DOCUMENTS TO TAME DISASTER* is reproduced with the permission of the author and the University of Chicago Press.

More information on the book is available at UCP's website <http://www.press.uchicago.edu>

Lee has his own website at www.leeclarke.com

About the Author



Lee Clarke is author of "Mission Improbable", from the University of Chicago Press. He is an internationally known expert in disasters, and organizational and technological failures. Examples are the recent train wreck in Baltimore, the Firestone/Ford Explorer cases, and nerve gas accidents in the US Army's project to destroy America's chemical weapons.

He has written about the Y2K problem, panic, civil defence, evacuation, community response to disaster, organizational failure, and is currently writing a book about the idea of worst cases. Specific examples of writing include work on Three Mile Island,

large oil spills, and contingency planning for many types of calamities. Dr. Clarke has written for, or been featured in, the Atlantic Monthly, Boston Globe, National Public Radio, and the Washington Post, among others.

His current projects include work on the idea of worst cases. Worst cases are instances of calamity that are beyond imagination. Historical examples are the Hindenburg disaster or the Black Death. More recent examples are Chernobyl and the explosion of TWA 800 after taking off from JFK airport. The World Trade Center attack is one of the worst things that's ever happened to American society.

Clarke is also currently writing about the problem of panic. Research shows that people hardly ever panic when we would most expect them to--in the midst of life threatening circumstances such as burning theatres or large scale disasters.

His latest book is *Mission Improbable: Using Fantasy Documents to Tame Disaster*. Contact information: 732.445.5741; lee@leeclarke.com.