Making Sense of Complex System Failure: The Case of 9/11

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by

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Making Sense of Complex Systems: The Case of 9/11

Sandra M. Cooper

ABSTRACT

The National Commission on Terrorist Attacks attributed the September 11 attacks on the U.S. homeland to the terrorists’ exploitation of “deep institutional failings.” These findings are similar to the conclusions of the Presidential Commission investigating the 1986 Challenger accident and the Columbia Accident Investigative Board (2003). Generally Commissions aim to provide the fullest possible account of events contributing to the catastrophe under investigation and to identify lessons learned, but avoid specifying responsibility and accountability. For this reason, various commission reports have been criticized for being abstract and shallow. These criticisms make a valid point. How commissions make sense of failures has real consequences in terms of preventing reoccurrences. If these accounts do not satisfactorily address the question, *How did this happen?*, clear prophylactic measures for the future also remain unspecified. This dissertation calls into question the usefulness of current constructions of system failure that focus solely on the abstract role of the institution or system in creating the conditions for failure. For the purpose of acquiring insight into our current narratives of system failure and accountability, the 9/11 Public Hearing Transcripts are analyzed. This research is a qualitative textual analysis of excerpts from the Transcripts related to both pre-9/11 intelligence failures and accountability. Using Weick’s view of sensemaking to gain a better understanding of our current constructions of system failure/resilience and accountability, this research identifies the dominant
constructions of pre-9/11 intelligence failures and accountability that are documented in the 9/11 Public Hearing Transcripts and the sensemaking resources that reinforce and solidify these constructions. Verbatim excerpts from the 9/11 documents are included to support claims. The theory of autopoiesis, a form of systems theory, is introduced as an alternative resource for constructing narratives on system-environment relationships and accountability. Leadership practices that foster system resilience and individual accountability for system-wide performance are presented.
CHAPTER ONE
MAKING SENSE OF COMPLEX SYSTEM FAILURE

On September 11, 2001, four U.S. planes hijacked by terrorists crashed into the World Trade Center, the Pentagon, and a field near Shanksville, a small town in Pennsylvania. The loss from these attacks was staggering. Within a few hours nearly 3,000 people died, an estimated 1,609 people lost a spouse or a partner, and approximately 3,051 children lost one or both of their parents. Twenty per cent of Americans, it is estimated, knew someone hurt or killed in the attacks (“9/11 by the Numbers,” 2005, para. 2, 19-21). On 9/11/2001, in a matter of minutes, millions of lives were irreversibly altered.

The magnitude of the devastation unleashed by the September 11 terrorist attacks on the United States remains incomprehensible. What is more, the lack of mobilization to the frequent, although fragmentary, threats to the U.S. homeland before 9/11 continues to be difficult to understand:

In sum, the domestic agencies never mobilized in response to the threat. They did not have the direction, and did not have a plan to institute. The borders were not hardened. Transportation systems were not fortified. Electronic surveillance was not targeted against a domestic threat. State and local law enforcement were not marshaled to augment the FBI’s efforts. The public was not warned. (National Commission on Terrorist Attacks upon the United States, 2004, p. 265)

In the end, the National Commission on Terrorist Attacks upon the United States (2004), i.e., the 9/11 Commission, observed, ”The terrorists exploited deep institutional failings within our government” (p. 265).

A similar explanation had previously been constructed by the Presidential Commission investigating the 1986 Challenger accident—that is, the “human failures behind the [shuttle’s] technical failure” (Tompkins, 1993, p. 127) were “rooted in
[the] history” of the problems in communication at the Marshall Space Flight Center (MSFC) (Presidential Commission on the Space Shuttle Challenger Accident, 1986, p. 120). Similarly, the Columbia accident, according to the Columbia Accident Investigation Board (2003), was “likely rooted to some degree in NASA’s history and the human flight program’s culture” (p. 9). The findings of these three investigations are also similar in that:

1. Each of the government-appointed Commissions aimed to provide a complete and frank account of the events leading up to a catastrophe.
2. None of the Commissions assigned individual accountability for those events.
3. All have been criticized for crafting official reports that are abstract, bloodless (Tompkins, 1993, p. 128), and shallow, as if organizations weren’t populated by human beings “with names, power, and obligations who are charged with making [them] work” (Meier, Jones, & Moyers, 2004, para.6).

Generally, government-appointed Commissions aim to provide the fullest possible account of events contributing to the catastrophe under investigation and to identify lessons learned, but in the interest of not engaging in a blame game, they typically avoid specifying responsibility and accountability. For this reason, various commission reports have been criticized for being abstract and shallow. These criticisms make a valid point. How commissions make sense of failures has real consequences in terms of preventing reoccurrences. If these accounts, in the end, do not satisfactorily address the question How did this happen?, clear prophylactic measures for the future also remain unspecified.

In light of the national need to have measures for preventing large scale system failures similar to those on September 11, 2001, this dissertation calls into question the usefulness of retrospective constructions of system failure that do not take into account that small changes in a system can also lead, over a period of time, to large-scale consequences. This is often referred to as the butterfly effect—
that is, “a butterfly stirring the air today in Beijing can cause a storm in New York next month” (Capra, 1996, p. 134). Similarly, we have painfully learned how seemingly non-consequential decisions such as flying a shuttle with minutely eroded O-rings can lead to a catastrophic accident. When only systems are held responsible for performance, as is the case in the official reports on the Challenger and Columbia accidents and 9/11, the relationship between individual actions and system performance is evasive, creating the potential for inaction, ineffectiveness, and inadequate performance (Connors, Smith, & Hickman, 1994, p. 23).

This dissertation analyzes the retrospective sensemaking of the events leading to September 11 that is documented in the 9/11 Public Hearing Transcripts, for the purpose of acquiring insight into our current narratives of system failure and identifying alternative narratives for expressing system accountability and system resilience. Historically, system performance and accountability have been dispersed throughout organizations, as a result of division of labor and specialization of knowledge and skills. Under these circumstances, each individual is accountable for achieving the precise goals of his or her position. This approach to organizations, work, and accountability is most effective when the environment is stable enough to ensure that the routine, standardized performance of individuals is summative and cumulatively attains organizational goals. Traditionally, our understanding of system performance and accountability has assumed a stable, predictable environment.

Now that we are immersed in an age of technology that enables complex global interdependencies, including events such as international terrorism, one of the major challenges facing organizations is to generate fresh ideas and approaches to understanding and fostering accountability in complex, dynamic environments. One possibility is a definition of accountability that aims for a pervasive sense of responsibility and ownership for the survival and success of the whole system, as well as for one’s own job. From this holistic perspective, each individual is
accountable for achieving the goals of the system. This requires all individuals to look beyond their jobs and be keenly aware of how their work interacts with the work of others to achieve the mission of the whole organization, what Weick and Roberts (1993) called heedful interrelating. In the absence of this sort of accountability, there is a breakdown of “the nervous system that [connects] the brain to the muscles” (Tompkins, 1993, p. 61), that is, communication that fosters system resilience.

The 9/11 Public Hearing Transcripts are artifacts of sensemaking processes that reverberate with themes of accountability, and its breakdowns. After 9/11, the National Commission on Terrorist Attacks upon the United States was established to “investigate facts and circumstances relating to the terrorist attacks of September 11, 2001” (National Commission, 2004, p. xv), twelve public hearings were conducted, testimonies were transcribed and released to the public, and a report was issued. Using Weick’s view of sensemaking (1979, 1995; Weick, Sutcliffe, & Obstfeld, 2005), I aim to reveal the communication beliefs and practices that inform the constructions of institutional failure and accountability in the 9/11 Public Hearing Transcripts. By examining our current narratives, I aim to discover opportunities for constructing new distinctions and descriptions that contribute to our understanding of the kinds of accountability that foster organizational resilience. A new, systemic model, autopoietic systems, is presented and tested as an alternative descriptor for system resilience and accountability.

Systems Thinking

The remainder of this chapter offers systems thinking as a useful theoretical framework for researching large scale organizational failure/resilience and accountability. First, systems thinking is presented as an alternative approach to understanding contemporary organizational issues. Second, the theory and language of systems theory that are relevant to this project are explored. Third,
systems thinking is presented as a framework for assessing and influencing system resilience. Fourth, an approach to accountability that is grounded in systems thinking is presented. Autopoiesis, a form of systems theory, offers a new image of accountability, one that redefines traditional management practices. This section concludes with a look at this new image of organizational relationships. Excerpts from Tompkins’s (1993, 2005) studies of organizational communication at the Marshall Space Flight Center in Huntsville, Alabama during the Apollo era (1960s) and after the 1986 Challenger and 2003 Columbia accidents, as well as related reports (Columbia Accident Investigation Board, 2003; Presidential Commission, 1986), are used to illustrate systems concepts that offer new ways of considering organizational performance and accountability.

Understanding 21st Century Organizational Issues

Since the end of the 18th century, the major tenets of the Renaissance, Reformation, Scientific Revolution, and Enlightenment have shaped the lives of the Western world; these include atomism, reductionism, mechanism, anthropomorphism, instrumentality, standardization, bureaucratization, centralization, universal principles, and a privileging of the masculine. Table 1 is my summary of this mode of thought and its influence on the research and practices of modern organizations (Carey, 1989; Cobb, 1926; Eisler, 1987; Morgan, 1997; Spretnak, 1997).
## Table 1

**The influence of traditional science on organizational research and practice**

<table>
<thead>
<tr>
<th>Research</th>
<th>Mechanistic mode of thought</th>
<th>Application of mechanistic thinking to organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What phenomena do we observe and study?</strong></td>
<td>A set of mechanistic relations: Relations between clearly defined parts that have some determinate order.</td>
<td>Use of labor, machines, materials, instruments, and tools (e.g., tasks, roles, goals) that have been invented to aid in attaining a goal.</td>
</tr>
<tr>
<td><strong>How is effectiveness defined?</strong></td>
<td>Machine-like operations.</td>
<td>Rationalized, efficient, reliable, operations.</td>
</tr>
<tr>
<td><strong>Where do we target interventions?</strong></td>
<td>Routinize and mechanize human thought and action.</td>
<td>The division, specialization, and standardization of machinery, materials, instruments, tools, and labor.</td>
</tr>
<tr>
<td><strong>What are indicators of success?</strong></td>
<td>Prediction and control; the ordering of our lives; the advancement of civilization.</td>
<td>Political, economic, and religious power, control, and influence.</td>
</tr>
</tbody>
</table>
Traditional mechanistic approaches to organizations are effective:

(a) when there is a straightforward task to perform; (b) when the environment is stable enough to ensure that the products produced will be appropriate ones; (c) when one wishes to produce exactly the same product time and again; (d) when precision is at a premium; and (e) when the human “machine” parts are compliant and behave as they have been designed to do. (Morgan, 1997, p. 27)

Conversely, mechanistically structured organizations have difficulty responding effectively to the continuous social, economic, and technological changes of the 21st century. Mechanistic structures that are ill-suited for dynamic environments include pre-determined goals, highly-specialized functional divisions, hierarchical levels, and task-based position descriptions (Morgan, 1997, pp. 28-29):

1. Performance that is guided by predetermined goals is not easily shifted to response patterns that would effectively address changes in the environment.

2. Functional silos and hierarchical levels often contribute to distortions in information and delays in coordinated responses to unfamiliar situations.

3. Highly specialized functional divisions and hierarchical levels foster myopic views and unilateral actions that often undercut the responsiveness of other functional areas, or the whole organization (e.g., when budget decisions heedlessly debilitate an organization’s training, health and safety, and security functions).

4. The precise position descriptions found in most hierarchical organizations encourage many organizational members to ignore the unfamiliar and “adopt mindless, unquestioning attitudes such as ‘it’s not my job to worry about that,’ ‘that’s his responsibility, not mine,’ or ‘I’m here to do what I’m told’” (Morgan, 1997, pp. 28-30).
Although many contemporary organizational theorists and others have argued that the concepts of mechanism are inadequate to deal with our globally interconnected world (Eisler, 1987; Morgan, 1997; Spretnak, 1997; Wheatley, 1994), most of Western culture continues to subscribe to them. People rely on these old vocabularies because they are not yet fluent in new ones. This is most evident in our modern organizations. Challenging us to reshape our current worldview, advocates of systems thinking offer new ways of considering organizational issues, such as chaos/order, control/autonomy, structures, information management, planning, prediction (Wheatley, 1994, p. ix). The traditional way of thinking has been called mechanistic, reductionistic, and atomistic. Conversely, systems thinking focuses on the whole, connections, relationships, and context, and has been called holistic, organismic, and ecological.

The Theory and Language of Systems Thinking

System failures have predominantly been attributed to institutional, historical, and cultural failings. If, however, we acquire a deeper understanding of how both individuals and the system are accountable for system failure, strategies for building system resilience can be enhanced. A theoretical framework that supports this definition of accountability and system resilience is autopoiesis, a form of systems theory. This theory:

1. Focuses on “organization and its dynamics, based on the ‘triggering’ effects of information transmission” (Buckley, 1967, pp. 1-2).
2. Privileges the relationship of the system with its environment.
3. Relates communication processes and system resilience.
4. Provides a theoretical framework for system assessment, prediction, and interventions.

This section reviews four systems theory concepts that are relevant to this project. Conceptualized as autopoietic systems of communication, social systems can, and
must, reinvent themselves. Meaning and resonance explain the role of communication in system/environment interconnections, learning, and system resilience. Requisite variety provides a theoretical framework for strengthening a system’s ability to respond to dynamic environments. Collectively, these concepts from systems theory provide a communication framework for assessing, predicting, and preventing system failure.

**Autopoietic Systems**

Concepts of organismic biological systems have been applied to social systems (Buckley, 1967; Capra, 1996; Luhmann, 1990; McWhinney, 1993; Varela, Thompson, & Rosch, 1991; Wheatley, 1994). Whereas living systems operate in the medium of life, social systems operate in the medium of conversation (Luhmann, 1990). In addition to being characterized as systems, living and social systems are specifically characterized as open systems; they each engage in interchanges with the environment in order to maintain system viability (Buckley, 1967, p. 50). Whereas living systems characteristically work to maintain their genetically given structures within fairly defined limits (homeostasis), higher level social systems are characterized primarily by their morphogenic properties (Buckley, 1967, pp. 4-5). Rather than preserve a given, fixed structure, social systems adapt through growth, development, change, and continuous learning; that is, they create, elaborate, or change structures in order to remain viable as ongoing systems (Buckley, 1967, p. 5). However, while continuously reinventing themselves, they also continue to maintain the integrity of their structures and continue to be recognizable as themselves. This developmental process is called autopoiesis, from the Greek word for self reproduction.

Reproduction, as Luhmann (1990) points out, is a production of products. The medium of social systems is communication; consequently, a social system is an autopoietic system of communication that, in a recursive network of communication,
not only constructs its own unity, structure, and communication, but also can learn and change itself through its communication.

The self organizing principle of autopoietic social systems can be illustrated by the various configurations of family in our society: We have married and unmarried couples; biological, adopted, step, and foster children; heterosexual and same sex parents and partners; and single-parent, two-parent, and extended families. However it is configured, a family does not exist until people come together, assume roles, and begin to interact. Over time those interactions lead the participants to seek definition about their relationship, that is, what they are trying to do, and are capable of doing, together. This is the self organizing process of autopoietic systems; in a recursive network of communication, the system constructs its unity, structure, and communication.

Autopoietic systems can also learn and change themselves. Continue to consider, as an example, certain family systems. The children grow older, go to school, and engage in academic and extracurricular activities. Some graduate, some marry, some have their own children. Each conscious or unconscious choice made along the way by the members of the family is some kind of real-time re-organization for that family system—for example, who is in the family and what they do together; the formal and informal roles that the members assume; the quantity, forms, and content of family interactions; and the quality of relationships among family members. On a daily basis, these unique interactions constitute, maintain, perpetuate, and characterize the family. This year, for example, my family is in the process of reorganizing (i.e., reinventing) itself as my daughter transitions from middle school to high school and I temporarily shift from full-time employee to full-time graduate student. These are significant reconstructions of major pieces of our lives; as a result, how much time we spend together, how we use that time, the distribution of household responsibilities, and so forth are being renegotiated in day-
to-day, formal and informal conversations. Consciously and unconsciously, through our interrelated words, meanings, and actions, my daughter and I not only construct a unity and structure for our family system, we also change it. At the same time, we also fundamentally remain recognizable as the Cooper family. In larger systems such as universities, government agencies, and Fortune 500 companies, autopoiesis is harder to see, as large organizations often appear as powerful super realities imposed on their members. To the contrary, it is the daily interactions within a system, whatever its size, that creates and maintains the system’s reality.

Carey’s (1989) discussion of the ritual view of communication aligns with the conceptualization of social systems as autopoietic systems of communication that create, maintain, and perpetuate themselves. Viewed as rituals, communication is a pattern of actions or words with some regularity and preciseness that reinforces social cohesion and the maintenance of society. A newspaper, for example, portrays and confirms particular views of the world. As such, it offers form, order, and tone to life. It does not describe the world, but rather portrays multiple views of it and “invites our participation on the basis of our assuming, often vicariously, social roles within it” (p. 21). Through portrayal, invitation, and reader participation, the newspaper contributes to the creation, maintenance, and perpetuation of particular views of the world (p. 33). A newspaper is one of countless human-made objects that serve to perpetuate (or contest) our understanding of the world. Other examples include novels, plays, art, events, customs, and traditions. Organizational examples include vision, values, and mission statements; policies and procedures; bulletin boards; and parking spaces. Examples also include the communication that Tompkins (1993) identifies as the essence of organizations—upward communication, downward communication, face-to-face communication, mediated communication, and decentralized and centralized communication (pp. 17-28). In this way, a social system is an autopoietic, recursive network of communications where communication
both produces, and is produced by, the system (Berger, 1967; Berger & Luckmann, 1966; Blumer, 1969; Mead, 1967).

System/Environment Interconnections: Meaning and Resonance

An autopoietic system, by way of recursive networks of communication, creates its structure, unity, and communication (Luhmann, 1990) as its members go about defining their relationship to one another and identifying what they are capable of doing together. By means of communication, the system and its components can be defined; and by process of exclusion, what is not of the system—the so-called environment—can be identified.

In practice, however, drawing boundaries between the system and the environment is never easy, and system/boundary designations are always fuzzy and shifting. First, the system/environment boundaries are always politically inspired and incessantly negotiated. Similar to a rubber band, the system/environment boundary expands and contracts, taking on various shapes, as the boundaries (inclusion/exclusion) are continuously negotiated. Second, none of the members is engaged solely with one system as all members participate to some degree in multiple systems, processes, and relationships. With autopoietic systems, there is always the question: Who is in (and to what extent), and who is out?

Although the nature of a system may change with time, the process of drawing boundaries remains important. Considering a university as an example, the question is Who is part of the university system? The university/environment boundaries can be drawn so that professors, staff, and students constitute the system: Classes of professors and students, supported by staff, enact a world—that is, a recursive system of communication with structure and unity. Arguments can also be made that faculty and staff are in, and students are part of the environment; or faculty and students are the system and staff, like vendors, are part of the environment. The status of parents is also muddy: Are they insiders, or outsiders?
The answer is that we can draw the system/environment boundaries however we choose. While there is no right answer to the question *What is environment to the system?*, it is important to recognize that each answer has particular practical implications. A striking example, to return to the family context previously discussed, is the instance when a blood relative is rejected by a family as one of its members, or vice versa.

Once we construct or re-construct a boundary, the question *How do we relate to what is not in the system?* must be addressed. Other questions to consider include: Who is included in the recursive network that is engaged in communicatively constituting the system? Should parts of the designated environment be part of the recursive network of communication that is the designated system? Are there times, for example, when the community leadership should be designated as part of a state-wide university system, possibly to engage in defining the missions of the various universities and their outcomes and services?

Once lines have been drawn to distinguish the system from its environment, the system produces very selective system/environment interconnections. Luhmann (1990) uses the concepts of meaning and resonance to designate the system/environment interplay. Meaning is the representation of world complexity—that is, the system’s representations of the environment at any given moment. Resonance implies that the resilience of a system is connected to the system’s relation to the environment, which in turn is dependent on the system’s representations of its environment. Contrary to the adage *seeing is believing*, an autopoietic system sees, and typically responds to, what it already believes/knows. An organization can not be resilient if it does not have the tools to describe the environment, a necessary condition to act in a responsive way.

Excerpts from the *Report of the Presidential Commission on the Space Shuttle Challenger Accident* (Presidential Commission, 1986) can be used to illustrate the
concepts of meaning, resonance, the relationship between the two, and system stability. In Chapter V of the Report, “The Contributing Cause of the Accident,” the Commission reported how they “sought to identify the human failures behind the technical failure” (Tompkins, 1993, p. 127):

The decision to launch the Challenger [sic] was flawed. Those who made that decision were unaware of the recent history of problems concerning the O-rings and the joint and were unaware of the initial written recommendation of the contractor advising against the launch at temperatures below 53 degrees Fahrenheit. . . . They did not have a clear understanding of Rockwell’s concern that it was not safe to launch because of ice on the pad. If the decision makers had known all the facts, it is highly unlikely that they would have decided to launch on January 28, 1986. (Presidential Commission, 1986, p. 82)

More specifically, the Commission concluded that the decision to launch the Challenger was based on “incomplete and sometimes misleading information, a conflict between engineering data and management judgments, and a NASA management structure that permitted internal flight safety problems to bypass key shuttle managers” (Tompkins, 1993, p. 128). Summarized from a systems perspective, the complexity of the situation was inadequately represented throughout the system and triggered a faulty response. When the system’s representations or descriptions of its environment are inadequate, system resonance is low and system vulnerability is high. Thus, on January 28, 1986, seven crew members on board the Challenger lost their lives.

For a system to survive, it must be able “every moment [to] select a new state which is different from the previous one” (Luhmann, 1990). A stable system, contrary to popular belief, is not a system that does not change. In short, its structures must be capable of continual adaptation, learning, and innovation, which
in turn is accomplished by way of “meaning” (Luhmann, 1990), that is, the capacity to grasp world complexity at any given moment.

Meaning is accomplished through difference technique: The system acquires a grasp on the states and the events that appear to it as information by producing its own distinctions and descriptions (Luhmann, 1990, pp. 17-18), that is, its own knowledge and communication. In this way, the system remains dependent on autopoiesis; the continuous generation of knowledge/communication determines the system’s capacity to react to whatever is environment for it. 

Requisite Variety

Difference technique is synonymous with differentiation within the system. By system differentiation, the system attempts to reduce the environmental complexity by placing a variety of possibilities within the environment and determining what works. This introduces the concept of requisite variety (Conant & Ashby, 1970). The law of requisite variety states: “The variety within a system must be at least as great as the environmental variety against which it is attempting to regulate. Put more succinctly, only variety can regulate variety” (Buckley, 1967, p. 495). Weick (1979) applies the concept of requisite variety to organizations:

Organizational processes that are applied to equivocal inputs must themselves be equivocal. If a simple process is applied to complicated data, then only a small portion of that data will be registered, attended to, and made unequivocal. Most of the input will remain untouched and will remain a puzzle to people concerning what is up and why they are unable to manage it. . . .

The inability of people in organizations to tolerate equivocal processing may well be one of the most important reasons why they have trouble. It is their unwillingness to meet equivocality in an equivocal manner that produces failure, nonadaptation. (p. 189)
Traditionally, our organizations have been structured to respond to stable environments and, as a result, may not have the variety of knowledge and experience to survive in dynamic, equivocal environments. Systems with greater complexity (i.e., greater capacity to represent environmental complexity, knowledge) have more and different kinds of relationships with their environments. Recent practices suggest that our governing bodies are beginning to recognize the need to diversify the input that informs decision making in today’s dynamic, equivocal environments. These practices include the recent re-emergence of town hall meetings at the federal, state, and local levels of government, as well as recruitment efforts to attract employees from diverse cultural backgrounds to public service. These system/environment interconnections have the potential to produce the variety of knowledge, experience, and information in the system that can better serve the public.

An extreme example of an organization’s effort to enhance its information-driven decision-making processes is the practice of penetration exercised at the George C. Marshall Space Flight Center (MSFC) in Huntsville, Alabama in the 1960s. Penetration was the practice of assigning MSFC engineers to contractor plants in order to monitor the work of the contractors. Through penetration, the government hoped to become a “smart buyer” (Thompson, 2005, p. 127) when the hardware was ready for delivery to NASA. Tompkins (1993) reports, for example, an incident in which the Marshall Center engineers knew more about the problems with the second stage of Saturn V than the contractor who built it:

One such contractor delivered a rocket stage to Huntsville. . . . The Marshall personnel quizzed the contractor on the possibility of cracks in the stage. The contractor’s people finally admitted there might be some cracks in it. How many cracks?

“Twenty-one,” was the answer.
“No, there are 26 cracks,” asserted an MSFC official.

The rocket stage was submitted to an examination and X-rayed. The stage contained twenty-six cracks—along with a few workers’ tools and lunch boxes and other debris that shouldn’t have been there. (p. 69)

NASA in this case had penetrated the manufacturing organization, observed the production processes, monitored workbenches, and quizzed contractor employees. Through selective system/environment interconnections and requisite variety, NASA (an autopoietic social system) had increased its ability to realize (meaning or organizational consciousness) and respond to unanticipated events in the environment (environmental resonance or system resilience).

Assessing and Influencing System Resilience

The purpose of this research project is understanding, and deterring, large-scale system failure. To this end, autopoietic systems are presented as an alternative for conceptualizing system accountability and system resilience. To guide research and practice, the theory on autopoietic systems must provide direction on the following: What phenomena do we observe, study, and assess? How is effectiveness defined? What are relevant interventions, for the purpose of enhancing effectiveness? What are measures of success? Table 2 is my summary of the framework provided by the theory and language of autopoiesis and its application to research on social systems.
Table 2

*Application of systems theory to social systems*

<table>
<thead>
<tr>
<th>Research</th>
<th>The language of systems theory</th>
<th>Application of autopoiesis, a form of systems theory, to social systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What phenomena do we observe and study?</strong></td>
<td><strong>Autopoiesis:</strong> A network that creates and recreates its own unity, structures, and elements.</td>
<td><strong>A recursive network of communication, where the communication produces, and is produced by, the system.</strong></td>
</tr>
<tr>
<td><strong>How is effectiveness defined?</strong></td>
<td><strong>Requisite Variety:</strong> The system’s ability to respond to anomalies in the environment.</td>
<td><strong>Viability:</strong> The ability to represent and respond to complexity; maintenance of society in time.</td>
</tr>
<tr>
<td><strong>Where do we target interventions, for the purpose of enhancing effectiveness?</strong></td>
<td><strong>Meaning:</strong> The representation of world complexity that is realizable by the system at any point in time.</td>
<td><strong>Organizational Consciousness:</strong> The production of communication/knowledge throughout the system.</td>
</tr>
<tr>
<td><strong>What are measures of success?</strong></td>
<td><strong>Resonance:</strong> System complexity reduces environmental complexity.</td>
<td><strong>Resilience:</strong> Ability to respond to greater environmental complexity.</td>
</tr>
</tbody>
</table>
Summarized, a social system is an autopoietic system of communication whose effectiveness and viability are related to its ability to represent the complexity of the environment. Efforts to enhance the system’s effectiveness target its communication/knowledge base—that is, its ability to represent the environment’s complexity, with the goal of enhancing the system’s complexity. With increased ability to respond to dynamic environments, system vulnerability is decreased. In this way, the theory and language of autopoietic systems provide a new language for understanding and influencing system performance.

Structures of Accountability

At first glance, it would seem that accountability for the performance of social systems resides solely with the system’s ability to respond to the complexity of the environment. To stop here, however, is to align systems thinking with previous abstract accounts of institutional failure. To the contrary, viewed from a systems perspective, accountability does not reside wholly with the system as an abstract entity. Systems thinking requires one to see a system as a functional whole and to understand the interdependence of its parts. To assign accountability for system performance is to be attentive not only to the whole system, but also to the participation, contributions, and interrelating in the system.

This kind of accountability is captured in the “method of operation” (Tompkins, 2005, p. 87) at the Marshall Space Flight Center (MSFC) during the 1960s, the Apollo Era. Known as automatic responsibility, it was first and foremost a system of professional and individual accountability:

[Automatic responsibility] fixed responsibility in any individual who had the technical competence to recognize and fix a problem; if the individual was unable to fix it, he or she was to communicate it up the line so that technical strength could be brought to bear on the problem. Every individual was supposed to make NASA a smart buyer and to keep the technical lines of
In the absence of this sort of accountability, there is an inevitable breakdown of the communication that fosters system resilience. Nearly thirty years after the successful Apollo launch, Tompkins (2005) concluded that it was not coincidental that the descriptions of many of the MSFC communication practices immediately preceding the 1986 Challenger accident did not fit the philosophy of automatic responsibility practiced during the successful Apollo era (pp. 116-117).

Autopoiesis provides a theoretical framework for understanding the ways in which system participants, individually and collectively, are accountable for their participation, contributions, and communication. The remainder of this section presents this non-traditional image of accountability.

*Individual and collective performance.* The language we consciously or unconsciously use to create social reality is the result of a series of selections. Selection involves the conscious or unconscious imposition of meaning on equivocal displays in an attempt to reduce their equivocality (Weick, 1979, p. 131).

The meaning that is ultimately selected is influenced by numerous factors. Retention, a repository for interpretations, affects subsequent interpretations of equivocality. People try to fit equivocal displays into what they have known all along. When the current situation doesn’t fit with past experience, the situation is often ignored or misread (Weick, 1979, p. 177). Decision makers also influence selection:

Decision makers in organizations intervene between the environment and its effects inside the organization, which means that selection criteria become lodged more in the decision makers than in the environment. What the decision makers attend to and enact, the cues they use, why they use those cues, their pattern of inattention and their processes for scanning and monitoring all become more influential as sources of selection criteria. Reality
as perceived by the members becomes more the source of selection within the organization than does reality as perceived by some omniscient, less involved observer. (Weick, 1979, p. 125)

This, however, is only half the story. Meaning, action, and accountability do not reside wholly with tradition, the institution, or the system. Members of organizations can avoid being "victimized by . . . their parochial volition" by systematically interjecting "chronic doubt" (Weick, 1979, p. 177). Experience retained as memory can serve as a constraint on interpretation and action; whether memory persists and dominates can be a choice, an interpretive choice or an enactment choice (p. 217).

**Interpretive choice.** Interpretive choice appears to organizational actors as a question: "‘Knowing what I know now, should I change the way I label and connect the flow of experience’" (Weick, 1979, p. 217). The choice is about the extent to which previous interpretations should inform current explanations of events. The concept *interpretation choice* (p. 217) creates opportunities to locate instances where the organization’s interpretive structures curb its ability to recognize anomalies. For example, because the *Challenger* had flown with O-ring erosion and nothing happened, flying with minute amounts of erosion was not interpreted as a high risk venture (Presidential Commission, 1986, p. 148).

**Enactment choice.** Enactment choice prompts a related question: "‘Knowing what I know now, should I act differently’" (Weick, 1979, p. 217). This choice concerns whether a previous action that responded to, or created, change should guide current actions. The concept *enactment choice*, like interpretive choice, provides an opportunity to understand and prevent social system failures. First, enactment choice assists us with locating actions and outcomes that were plausible, but not initiated; were initiated but not coordinated; or were coordinated but not coordinated inadequately. For example, for one reason or another, the seriousness
of the problems concerning the Challenger’s O-rings was not adequately reported “up the line” (Tompkins, 1993, p. 130).

**Individual and collective accountability.** The concepts interpretive choice and enactment choice focus our attention on the constraints and opportunities available at a given moment in time. We can continue to reenact what we already know and do, or challenge our knowledge and practices and construct new interpretations and responses. However, repeated enactments or persistent discrediting of the past undermines a system’s adaptability. Weick (1979) suggests a compromise. For an organization to survive, it must develop an ambivalent attitude towards experience, one that simultaneously respects and challenges its history. The chief outcome of organizations, as Weick (1979) points out, is the production of “stable interpretations of equivocal displays” (p. 229). These explanations of what an organization is trying to accomplish, and how to go about it, serve as guides for future action and interpretation. Collectively, these explanations become an enacted organization, the familiar world of mission, vision, values, policies, procedures, and practices. Together, they provide some stability as people go about their business. As organizations are reenacted moment by moment, individuals in the organization also face the critical question of what to do with what they know, as changes in the environment may challenge the usefulness of the experience or memory of the organization. Weick (1979) describes members of adaptive organizations as, “people who oppose, argue, contradict, disbelieve, doubt, act hypocritically, improvise, counter, distrust, differ, challenge, vacillate, question, puncture, disprove, and expose” (p. 229). All of these actions embody ambivalence, some uncertainty toward what is generally accepted as the way to do business. The tension between the organization’s need for both stability (an ongoing reenactment of the system) and flexibility (adaptation to changes in the environment) reveals the ways in which the organization (the familiar world everyone knows) and individuals (choices of
interpretation and enactment) are accountable for system performance.

A New Image of System Resilience and Accountability

Accountability and systems thinking are not often joined in public thinking. For example, in his research at the Marshall Space Flight Center (MSFC), Tompkins (1993, 2005) made the following observation about automatic responsibility, the system of professional and individual accountability at MSFC that held individuals responsible for resolving problems or communicating them “up the line” (2005, p. 127):

[Automatic responsibility] was a radical departure from typical bureaucratic practice. It was such a radical innovation that since 1967 I have found few executives who felt they could administer such a principle. They feared it would foster anarchy. How could you run an assembly line with such a principle? they asked. (1993, p. 67)

Fearful of radical departures from typical bureaucratic practices, leaders often make it difficult, if not impossible, for the organization to respond to disruptive events. The typical organization’s emphasis on policy, procedures, protocols, and chains of command constrains individuals’ abilities to respond to the unexpected. The tendency is to try to fit a square peg into a round hole by normalizing the unexpected event and implementing preconceived protocols. When routines are activated, people assume that the world they face is similar to the world that existed at the time the routine was first drafted (Weick & Sutcliffe, 2001, p. 43). This practice ignores unfamiliar information that suggests that trouble is incubating and escalating (so-called red flags), and generates responses that are consistent with previously crafted plans and operating procedures for correct performance. Work rules, though usually well intentioned, constrain what workers see and do (Tompkins, 1993, p. 67).

Wheatley (1994) captures the essence of a new image of system resilience
and accountability, one that is informed by autopoiesis and accounts for individual-organization accountability:

If we allow autonomy at the local level, letting individuals or units be directed in their decisions by guideposts for organizational self-reference, we can achieve coherence and continuity. [Self organizing autopoietic systems succeed] when the system supports the independent activity of its members by giving them, quite literally, a strong frame of reference. When it does this, the global system achieves even greater levels of autonomy and integrity [i.e., complexity]. (p. 95)

Luhmann (1990) concurs. Systems are domains of instability and chaos. What is stable are functions and structures (e.g., values, strategic direction, practices). They constitute a worldview that is shared, yet continually contested. As such, they serve as provisory but relatively stable points of departure for further operations.

During his stint as organizational communication consultant at the Marshall Space Flight Center (MSFC), Tompkins (1993, 2005) identified institutionalized values that contributed to the success of man’s landing on the moon. One was the practice of “Monday Notes” (Tompkins, 1993, pp. 62-66; 2005, pp. 82-85). During the growth stage of MSFC, the director asked managers, lab directors, and project managers who were removed from him by at least one layer of management to send him, and the other contributors, a weekly, one-page note summarizing the week’s progress and problems. The advantages reported by the contributors included: keeping the director informed of problems and progress; fostering formal, regular, horizontal communications throughout MSFC; keeping channels of communication open during times of decreased or limited face-to-face communications; assuring problems did not fall through the cracks by creating more channels than are logically or ideally necessary; and surfacing conflicts. “In short,” Tompkins (1993) summarized, “von Braun’s simple request for [Monday Notes] had generated a
rigorous and regularly recurring discipline of communication within the organization” (p. 65).

With values-based structures and processes such as Monday Notes in place, systems can achieve coherence while simultaneously leaving space for the individuality, diversity, and learning that is fundamental to continuity. Wheatley (1994) states: “What is critical is the relationship created between the person and the setting. That relationship will always be different, will always evoke different potentialities. It all depends on the players and the moment” (p. 34). System resilience, according to advocates of self organizing autopoietic structures, depends on organizational functions and structures that not only provide direction, but also allow for local autonomy, the readiness of players, the moment, and a pervasive system of accountability.

A critical leadership role is designing the underlying structures—that is, the interrelationships that shape the conditions where types of behaviors and events become likely (Senge, 1990, p. 341). These underlying interrelationships (e.g., the purpose, vision, and core values of the system) are important because these structures foster certain behaviors; by changing the underlying structures, we can promote different patterns of behavior. In this capacity, no one has a more sweeping influence on the system than its leaders (p. 341). The work of the leader/designer includes seeing the system as a whole in which the parts are not only internally connected but also linked to the environment, clarifying how the whole system can work better, and designing the underlying heedful interrelating of people, processes, and structures that support system resilience (pp. 341-345).

Recognizing the role of leaders in designing the underlying structures of organizations, recent high profile lawsuits (e.g., Enron) have aimed to hold individual CEOs culpable for their roles in system failure. Similarly the project manager for Discovery preemptively claimed responsibility if any system failures prevented the
shuttle from returning to Earth. Although these recent instances bring attention to issues of leadership responsibility and culpability, they do not meaningfully assist us with understanding and preventing system failure. In the worst case scenario, they obfuscate a more productive understanding of the nexus of individual and system accountability that fosters system resilience.

Autopoiesis provides a fresh alternative for understanding system performance. To varying degrees, the familiar world constructed by organizations provides both opportunities and constraints for individual contributions. For the opportunities and constraints it creates, the organization is accountable. As contributors to the system, members of the system have opportunities to express themselves, by either reinforcing or contesting the world enacted by the system. Concomitantly, the system and its individual members are accountable for what they contribute to the on-going production and reproduction of the system, and the reality that is created.

This new way of talking about system performance and accountability is supported by theory and research on system failure/resilience in risky (Perrow, 1999) and high reliability (Weick & Sutcliffe, 2001) organizations.

**Organizational Theory**

Weick and Roberts (1993) developed the concept of collective mind to describe system performance in situations requiring error-free operational reliability. Collective mind is conceptualized as a pattern of heedful interrelating in a social system:

> Actors in the system construct their actions (contributions), understanding that the system consists of connected actions by themselves and others (representation), and interrelate their actions within the system (subordination). (Weick & Roberts, 1993, p. 357)

In practice, the concept of collective mind resembles automatic responsibility – the
system of professional and individual accountability practiced at the Marshall Space Flight Center (MSFC) in the 1960s. Automatic responsibility, the “method of operation” (Tompkins, 2005, p. 87), provided direction on how to participate, contribute, and interrelate in the system. It assumed not only technical expertise, but also system knowledge. Employees were expected to address problems by resolving them or communicating them to others. The goal at MSFC was successful flight missions; the practice of automatic responsibility ensured all parts of the organization were interfacing and communicating with the other parts of the system working toward this end.

The concept of collective mind provides a theoretical framework for researching system performance. First, it specifies empirical materials for researching and understanding system resilience. Weick and Roberts (1993) argue that patterns of interrelating (contributing, representing, and subordinating) within a system are as close to a physical substrate for holistic consciousness or knowledge as we are likely to find (p. 365). Groups connect their actions with more or less care, and focusing on the way this is done reveals collective mental processes that differ in degree of development (p. 360). To understand consciousness within the system is to be attentive to the participation, contributions, and nature and degree of interrelating in the system; to study interrelating is to grasp the intelligence or consciousness of the system, a necessary condition to act in a responsive way. Automatic responsibility, Monday Notes, and penetration were identified as organizational practices at MFSC in the 1960s that cumulatively contributed to the successful Apollo mission. All are examples of patterns of interrelating that are accessible for researching and analyzing system consciousness, responsiveness, and resilience.

Second, the concept of collective mind establishes a performance model; it specifies a goal or vision to be realized. Weick and Roberts (1993) conceptualize
organizational performance as interrelations of actions of a system that are mediated by the consciousness within the system:

There are group actions that are possible only when each participant has a representation that includes the actions of others and their relations. The respective actions converge relevantly, assist and supplement each other only when the joint situation is represented in each and when the representations are structurally similar. Only when these conditions are given can individuals subordinate themselves to the requirements of joint action. These representatives and the actions that they initiate . . . bring group facts into existence and produce the phenomenal solidity of group process. (Asch, 1952, pp. 251-252)

A performance model establishes the goal to be realized. Ideally, the actions of each member of the system are informed by knowledge of the environment, actions of others, and the interdependencies in the system. In this way, the joint situation is represented in each response by individuals and the system.

Third, the concept of collective mind can account for variations in system performance. Where the concept of consciousness suggests a kind of capacity in an ongoing stream of interactions, performance is the set of actions that physically exists within a particular system. Examples include the previously mentioned practices of automatic responsibility, Monday Notes, and penetration at MSFC. Conversely, breakdowns in performance likely indicate a corresponding deficiency in consciousness. When consciousness is deficient:

Individuals represent others in the system in less detail, contributions are shaped less by anticipated responses, and the boundaries of the envisaged system are drawn more narrowly, with the result that subordination becomes meaningless. Attention is focused on the local situation rather than the joint situation. . . . Key people and activities are overlooked. . . . There is less
comprehension of the implications of unfolding events, slower correction of errors, and more opportunities for small errors to combine and amplify. . . .

There is a greater chance that small lapses can enlarge into disasters. (Weick & Roberts, 1993, p. 371)

Fourth, the concept of collective mind identifies targets for improving performance—that is, forms of social processes, connection, and interrelating (Weick & Roberts, 1993, p. 360):

People act heedfully when they act more or less carefully, critically, consistently, purposefully, attentively, studiously, vigilantly, conscientiously, pertinaciously. . . .

When heed declines, performance is said to be heedless, careless, unmindful, thoughtless, unconcerned, indifferent. Heedless performance suggests a failure of intelligence. . . . It is a failure to see, to take note of, to be attentive to. (Weick & Roberts, 1993, pp. 361-362)

Activities can be interrelated more or less adequately depending on the care with which contributing, representing, and subordinating are done (p. 363). It is these varying forms of interrelating that embody the degree of care or consciousness within the system; it is these varying forms of consciousness that are actualized in patterns of behavior that range from “stupid to intelligent” (p. 361). The more that heedfulness is reflected in a pattern of interrelations, the more developed the collective mind and the greater the capability to meet emergent situational demands.

The concept of collective mind provides a theoretical foundation for analyzing and improving system performance. It specifies empirical materials for analyzing organizational performance, performance goals to be realized, indicators of actual performance, and targets for performance enhancements. Table 3 is my summary of the framework provided by the application of autopoiesis, a form of social systems theory, to research on social systems. This table points out how abstract systems
theory concepts (e.g., recursive networks of communication) are related to empirical materials of our social world (e.g., interrelating) that can be observed, assessed, and changed.
Table 3

**Social system research**

<table>
<thead>
<tr>
<th>Research</th>
<th>Application of autopoiesis, a form of systems theory, to social systems</th>
<th>Applied social system research</th>
</tr>
</thead>
<tbody>
<tr>
<td>What phenomena do we observe and study?</td>
<td>A recursive network of communication, where the communication produces, and is produced by, the system.</td>
<td>The participation, contributions, and interrelating of the members of the system.</td>
</tr>
<tr>
<td>How is effectiveness defined?</td>
<td>Viability: The system’s ability to represent, communicate and respond to the complexity of the environment.</td>
<td>Joint action: The organization’s situation is represented in the actions of its members; members subordinate themselves to system requirements.</td>
</tr>
<tr>
<td>Where do we target interventions, for the purpose of enhancing effectiveness?</td>
<td>Organizational consciousness: The production of communication/knowledge that reduces the systems’ vulnerability.</td>
<td>Forms of interrelating that develop the collective mind: The care with which contributing, representing, and subordinating are done.</td>
</tr>
<tr>
<td>What are measures of success?</td>
<td>Resilience: Ability to respond to complexity.</td>
<td>Capability to meet situational demands.</td>
</tr>
</tbody>
</table>
Research on organizations that require error-free operations further informs the use of system theory as a framework for assessing and improving system resilience (Perrow, 1999; Steier & Eisenberg, 1997; Tompkins, 1993, 2005; Weick & Sutcliffe, 2001). For example, high reliability organizations provide important lessons about managing in complex, unpredictable environments because of what they do on the “input side” (Weick & Sutcliffe, 2001, p. 9)—that is, what they pay attention to, how they process information, and how they struggle to maintain alertness. They are distinguished by a “continuous updating and deepening of increasingly plausible interpretations of what the context is, what problems define it, and what remedies it contains” (Weick & Sutcliffe, 2001, p. 3). To this end, high reliability organizations complicate rather than simplify their processes of attention. They:

1. Maintain complicated mental models of how events unfold.
2. Treat any lapse of performance as a symptom that something is wrong.
3. Encourage the reporting of errors.
4. Position themselves to see as much as possible.
5. Encourage boundary spanners.
7. Hold a deep knowledge of the technology, the system, one’s coworkers, one’s self, and the raw materials.
8. Cultivate diversity.
9. Defer to expertise.
10. Push decision making down and around (Weick and Sutcliffe, 2001)

High reliability organizations deal with the unexpected by engaging in activities that develop the system’s consciousness—that is, its ability to grasp the complexity of its environment.
The design of an electronic system at NASA that would foster “sharing what we learn or claim to know” (Steier & Eisenberg, 1997, p. 52) exemplifies an organizational intervention to develop the care or consciousness within a system. “In the end,” Steier and Eisenberg (1997) argued, “It is the case of one organization redefining its idea of learning from one of information records storage and retrieval to one focused on gaining insight in relationship through dialogue” (p. 52).

The use of systems concepts such as collective mind and heedful interrelating theory for explaining, and potentially preventing, variance in system performance is illustrated by Tompkins’s (1993) case study of NASA Marshall Space Flight Center (MSFC). Tompkins reports that descriptions of certain communicative events leading up to the launch and the subsequent fatal accident of the Challenger in 1986 did not fit with the practices he had observed at the Marshall Center in the 1960s when Apollo was successfully launched:

One example was the highly publicized teleconference held on Monday, January 27, 1986, the night before the launch. . . .

One Marshall manager was quoted . . . as saying he was “appalled” by Thiokol’s recommendation not to launch . . .; apparently [the manager] had not been made aware of the critical nature of temperature considerations.

(Tompkins, 1993, pp. 9-10)

Tompkins (1993) concluded that this was inconsistent with the heedful practices of open communication that he had observed at MSFC in the 1960s (p. 10).

Weick and Roberts (1993) presume the presence of consciousness and interrelating within all systems. “What may vary across [systems or within a system at various points in time] is the felt need to develop these processes to more advanced levels” (p. 358).
CHAPTER TWO
THE CASE OF 9/11

This research project analyzes retrospective accounts of events leading to September 11, 2001, for the purpose of acquiring insight into narratives of system failure/resilience and accountability. Specifically, this project focuses on accounts of pre-9/11 intelligence failures and accountability provided by participants during the 9/11 Public Hearings and documented in the 9/11 Public Hearing Transcripts. Although the 9/11 Commission intended a review of institutional failures, the failure of intelligence functions dominated the focus of the Commissioners and witnesses, not only in their review of the activities of the intelligence community, but also in their reviews of other functional areas in the government, for example, aviation security, border control, immigration. In this light, my research questions are as follows:

Research Question 1: What does the language in the Public Hearing Transcripts reveal about the sensemaking processes and structures that shaped these accounts, specifically with regard to pre-9/11 intelligence failures and accountability?

Research Question 2: Viewed through the lens of autopoiesis, how does the analysis of the accounts of pre-9/11 intelligence failures and accountability in the 9/11 Public Hearing Transcripts inform a new vocabulary of system accountability and system resilience, one with practical implications for future organizational practice?

The conceptual and methodological framework that informs this research project is Weick’s view of sensemaking (1979, 1995; Weick, Sutcliffe, & Obstfeld, 2005). This chapter presents this framework. In addition, I explain the protocols for selecting and analyzing excerpts from the 9/11 Public Hearing Transcripts for this research project. Using the sensemaking perspective as a lens, my goals are to
(a) reveal the communication beliefs that constitute the constructions of system
failure and accountability in the 9/11 Public Hearing Transcripts and (b) identify
alternative narratives for expressing system resilience and accountability.

Sensemaking

Sensemaking has been conceptualized as the process of structuring the
unknown (Waterman, 1990, p. 41); active agents constructing sensible, sensible
(Huber and Daft, 1987, p. 154); a process through which interpretation of
discrepancies are retrospectively developed (Louis, 1980, p. 241); “the reciprocal
interaction of information seeking, meaning ascription, and action” (Thomas, Clark, &
Gioia (1993, p. 240); and “the activity of ‘making’ that which was sensed” (Weick,

The sensemaking perspective is unique in that it goes beyond interpretation
(attending to cues, interpreting, externalizing, and linking these cues) to include an
explanation for how cues got there in the first place; how particular cues are singled
out from an ongoing flow of experience; and how the interpretations and meanings
of these cues are altered and made more explicit and sensible as a result of activities
(Weick, 1995, p. 8).

Weick (1995) argues that autopoietic systems should be concerned with
sensemaking, as their effectiveness and viability depend on this ability to make
sense and respond to unanticipated events in the environment:

It is the very openness associated with [autopoietic systems] that makes
distinctions between out there and in here inventions rather than discoveries,
that results in people creating their own constraints, and that triggers the
strange sequence in which outputs become the occasion to define
retrospectively what could have been plausible inputs and throughputs. (p.
70)

These are the very problems that are the focus of sensemaking—how we construct
the explanations we construct, why, and with what effects (Weick, 1995, p. 4).

Weick’s (1995) dissection of sensemaking into seven properties puts “some boundaries around the phenomenon of sensemaking” (p. 18), providing a rough guideline for inquiry into sensemaking processes. Definitions and examples of each of the sensemaking properties follow. Collectively, these seven properties (pp. 18 – 65) provide a conceptual framework for understanding how the events leading to September 11 were constructed by witnesses during the 9/11 Public Hearings.

**Sensemaking is Grounded in Identity Construction**

People establish and maintain identity by taking cues from others while simultaneously making an effort to influence the definition of self that is being constructed for them. An example of this sensemaking property comes from my simultaneous appointments as Director of two departments during the past two years. In an email confirming an impending Leadership Team Meeting, the Associate Vice President requested an update from the team on its succession planning project. Knowing that heads would turn to me as the Director of Organization Development and Training for this update, I prepared a report; however, to avoid the abnegation of my identity as the Director of Environmental Health and Safety, I recruited another member of the team for the presentation, and participated as a member of the facilities team in the subsequent discussion. This complex mixture of proactivity and reaction is commonplace in sensemaking. The sensemaking perspective on the construction of identity captures the essence of autopoiesis, a form of systems thinking that takes into account the interdependence of the parts that constitute the system. Viewed from this sensemaking/systems perspective, identity is constructed from cues from others and one’s own efforts to influence the definition of self. This nexus of self and other constitutes the self that defines and then responds to the world (Weick, 1995, p. 20).
In a similar way, a system establishes and maintains its identity. That is, the core, distinctive, and enduring character of the system (Albert & Whetten, 1985; Weick, Sutcliffe, & Obstfeld, 2005, p. 416) is a nexus of cues from the environment and the system’s own efforts to influence the definition of its identity:

Who we think we are (identity) as organizational actors shapes what we enact and how we interpret, which affects what outsiders think we are (image) and how they treat us . . . . [Organizational] sensemaking, filtered through issues of identity, is shaped by the recipe “how can [we] know who we are becoming until [we] see what they say and do with our actions?” (p. 416).

According to Weick et al. (2005), the establishment and maintenance of identity is a core preoccupation in sensemaking, i.e., the turning of circumstances into a situation that, comprehended explicitly in words, serves as a springboard for action (p. 409; see also Weick, 1995, pp. 18-24). For an understanding of the it that is defined, it is important to look at that which has informed the self conscious sensemakers who are engaged in making sense of the situation. For the purpose of this project, the definitions of self used during sensemaking processes provide insight into the why and how of the explanations constructed in the 9/11 Public Hearing Transcripts, as well as other plausible identities that may be useful prospectively.

Weick (1995) places identity first on the list of sensemaking properties because the establishment and maintenance of identity, a core preoccupation in sensemaking (p. 20), influences how other aspects, or properties, of sensemaking are understood. This positions identity as the primary sensemaking property in constructing the meanings that inform and constrain action.

*Sensemaking is Retrospective*

Meaning comes with the kind of retrospective attention that is directed to the experience; it “is not ‘attached’ to the experience” (Weick, 1995, p. 26). As a result, many possible meanings are plausible, and the problem for the sensemaker is
equivocality. When people are overwhelmed by equivocality, they use values, priorities, and preferences to help them give meaning to that elapsed experience. For example, when in doubt, I prefer to trust others. Identification of the values, priorities, and preferences used to create meaning from equivocality can provide insight into how, why, and to what effect particular explanations are constructed.

Sensemaking Enacts Sensible Environments

Enactment is first and foremost about action. People produce the environment they face, and this environment constrains their actions. For example, organizational charts, position descriptions, and job titles delineate the ways in which employees are to participate in and contribute to organizational activities. The custodial worker cleans carpets, the office assistant manages calendars, and the senior fiscal assistant reconciles ledgers. This is where sensemaking most clearly becomes a process that creates objects for sensing.

Creating is not the only thing that can be done with action. Lines of action may be stopped, abandoned, postponed, planned but not implemented, initiated and then transformed, redirected, and inhibited, as well as expressed. Examples include the processes, or lack of processes, that shaped the widespread disappointment with Continuous Quality Improvement (CQI) at the end of the 20th century. Frequently organizations embarked on the use of CQI tools to generate efficiencies, customer satisfaction, and cost savings without building the underlying philosophy and structures that are required to realize the tangible results of CQI. According to Weick (1995), “The act that never gets done, gets done too late, gets dropped too soon . . . is seldom a senseless act” (p. 37).

Sensemaking is about action but it is also “as much a matter of thinking that is acted out conversationally in the world as it is a matter of knowledge and technique applied to the world” (Weick et al., 2005, p. 412). The centrality of the “saying” in sensemaking and organizational action includes “the talk that leads to a
continual, iteratively developed, shared understanding of the [circumstances] and the persuasive talk that leads to enlistment in action” (Weick et al., p. 412). Neither talk nor action, from the perspective of sensemaking, is inherently more important. Until talk brackets action and gives it meaning, it remains an “indistinguishable part of the swarm of flux” (Weick et al., p. 412). The centrality of talk and action in organizational sensemaking has been coined as “thinking that is acted out conversationally” or “acting thinkingly” (Weick et al., p. 412).

The presence (or absence) of talk and action that takes on "the form of an externally specified objective reality where transacting parties play out preordained roles and . . . ‘routines’” (Ring & Van de Ven, 1989, p. 185; see also Weick, 1995, p. 36) is the substance of sensemaking, and contributes to an understanding of how current and alternative interpretations and enactments are constructed.

_Sensemaking is Social_

People actively shape each other’s meaning and conduct, whether they are physically present or absent. According to Weick (1995), "What I say and single out and conclude are determined by who socialized me and how I was socialized, as well as by the audience I anticipate will audit the conclusions I reach” (p. 62). My Type A personality, like so many of my colleagues, is deeply rooted in family, the Anglo Saxon Protestant culture of our childhood, and the work ethic of our employers. People who study sensemaking pay attention to the communication that socializes, defines connections, establishes entities to which people can orient, signifies what is important, and binds people’s time to projects. Examples include “symbols, promises, lies, interest, attention, threats, agreements, expectations, memories, rumors” (Weick, 1985, p. 128), upward and downward communication, face-to-face and mediated communication, and centralized and decentralized communication (Tompkins, 1993, pp. 17-26). The forms, qualities, and timing of relationships, interrelating, and coordination provide insight into various outcomes of sensemaking.
Sensemaking is Ongoing

People are always in the middle of continuous flows of activity. As we say, a million things are going on (Weick et al., 2005, p. 411). All of these activities furnish “an undifferentiated flux of fleeting sense impressions” (Chia, 2000, p. 517), from which cues may or may not be extracted for closer attention.

When a flow of taken-for-granted activity is interrupted, an emotional response is typically induced, which then paves the way for emotion to influence sensemaking. For example, only weeks after Hurricane Katrina ravaged New Orleans and the coast of Mississippi, Hurricane Rita was moving up the Gulf of Mexico toward the Texas coastline. Before the devastation of Hurricane Katrina, it was often the case that people disregarded official mandatory evacuations of coastal areas and flood zones, boarded up their homes, stocked supplies, and hunkered down to wait out the storm. Hurricane Rita, however, triggered a different response. On the heels of Hurricane Katrina, Rita struck fear and terror throughout the state. The unprecedented mass exodus of over one million evacuees, mostly from non-evacuation zones in Houston, is a powerful example of emotion-laden sensemaking induced by the threat of significant disruptions to ongoing, taken-for-granted day-to-day activities. It is precisely when ongoing flows of activity are interrupted, or those flows are significantly threatened, that interpretations of events and actions are infused with and influenced by feelings (Weick, 1995, p. 45). Understanding the influence of emotion on the construction of meaning provides insight into the various outcomes of the sensemaking process.

Sensemaking is Focused on and by Extracted Cues

Extracted cues are simple, familiar structures that are seeds from which people develop a larger sense of what may be occurring. For example, the blatantly negative and accusatory tone in an annual report recently published by an institution’s Auditor General’s office generated some internal sensemaking regarding
the subsequent resignation of its director. People make sense of what they extract; if events are not extracted from the ongoing flow of activity, they are not available for sensemaking. What is and is not noticed by sensemakers provides insight into meanings that are, and are not, constructed.

*Sensemaking is Driven by Plausibility rather than Accuracy*

People believe what can account for a sensory experience, as well as what is interesting, attractive, emotionally appealing, and goal relevant. Stories, myths, metaphors, epics, paradigms, etc. pull together disparate elements and provide a socially acceptable, credible, coherent, and reasonable accounting of events. For example, the termination of senior-level employees is often accompanied by official explanations, for example, “small children at home” and “recent medical conditions.” Often these explanations are accepted as plausible explanations.

If we are to understand the products of sensemaking, we must understand them as plausible explanations, judged only by their usefulness, not their accuracy:

Sensemaking is not about truth and getting it right. Instead, it is about continued redrafting of an emerging story so that it becomes more comprehensive, incorporates more of the observed data, and is more resilient in the face of criticism. . . . Stories tend to be seen as plausible when they tap into an ongoing sense of current climate, are consistent with other data, facilitate ongoing projects, reduce equivocality, provide an aura of accuracy . . . and offer a potentially exciting future. (Weick et al., 2005, p. 415)

The plausible explanations of pre-9/11 intelligence failures and accountability that dominate the 9/11 Public Hearing Transcripts are the focus of this research project. These accounts will be analyzed for the purpose of acquiring insight into current narratives of system failure and accountability and to identify alternative narratives for expressing system resilience.
Discussion and Summary

Weick’s dissection of sensemaking into seven properties provides a conceptual framework for understanding sensemaking processes. This framework includes an explanation of how cues appear in the environment (e.g., the enactment of sensible environments), how particular cues are singled out from an ongoing flow of experience (e.g., the identities that define and respond to extracted cues from the ongoing flux of the environment), and how the interpretations and meanings of cues from the environment become more explicit and sensible (e.g., the plausible retrospective explanations that emerge and become more comprehensive and resilient). Focusing on how we construct our explanations, the sensemaking perspective provides a conceptual framework for analyzing the constructions of pre-9/11 intelligence failures and accountability that are documented in the 9/11 Public Hearing Transcripts. Revealing how these interpretations were constructed, alternative constructions can be considered.

Research Protocols

This dissertation conceptualizes the events leading to 9/11 as a system of organizational communication—that is, as a system of interrelated words, meanings, and actions that lead up to the terrorist attacks on September 11, 2001. Organizational communication is “the study of sending and receiving messages that create and maintain a system of consciously coordinated activities . . . of two or more persons” (Tompkins, 1984, pp. 662-663; 1993, p. 24; see also Bantz, 1993). Messages can be spoken, written, or conveyed by gestures and include not only content but also metacommunication—that is, the messages associated with the manner or mode in which the content is conveyed and interpreted (Watzlawick, Beavin, & Jackson, 1967). They include simple missives (e.g., messages on the bulletin board) as well as more important examples such as the exercise of authority (Tompkins, 1993, pp. 24-25). Additionally, they include the crucial tensions of
upward and downward communication, face-to-face and mediated communication, centralized and decentralized communication, and formal and informal communication (Tompkins, 1993, pp. 17-26).

Precedents for understanding complex system performance from an organizational communication perspective include the analysis of the Challenger and Columbia accidents by Tompkins (1993, 2005), Weick’s (1990) discussion of a near collision of two airlines at Tenerife, and Steier and Eisenberg’s design of “conversational domains” at NASA (1997).

This research project is a qualitative textual analysis of system failures documented in the 9/11 Public Hearing Transcripts. Words, sentences, paragraphs, discrete accounts of events, and conversational exchanges will be excerpted from the Transcripts. The selection of excerpts will be guided by the research questions. To this end, excerpts related to both pre-9/11 intelligence failures and accountability will be extracted from the 9/11 Public Hearing Transcripts.

**Excerpts from the 9/11 Public Hearing Transcripts**

As researcher in this project, I aim to create insight by researching various views of pre-9/11 intelligence failures and accountability documented in the 9/11 Public Hearing Transcripts. To this end, both dominant and marginalized views of pre-9/11 intelligence failures and accountability are targeted for extraction and further analysis. Examples of the kinds of excerpts to be extracted include:

1. Definitions, descriptors and uses of intelligence, intelligence failure, and accountability.
2. Struggles and negotiations over the definition of a situation.
3. Arguments, claims, and evidence.
4. Analogies to other situations, root metaphors, and rigid frames.
5. Coherence and fidelity.
6. Cross talk
To guide research and practice, Weick et al. (2005) have compressed the properties and distinguishing features of sensemaking into a conceptual and methodological framework (Figure 1), called the “enactment model” or the ESR sequence (p. 414).

**Analysis**

Table 4 is my depiction of the compression of specific features of sensemaking into the ESR sequence (Weick, Sutcliffe, & Obstfeld, 2005, 414).
Table 4
The relationship between ESR and sensemaking

<table>
<thead>
<tr>
<th>Sensemaking sequence</th>
<th>Features of sensemaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecological change</td>
<td>Actors (concerned with identity), extracting anomalies from the flux of circumstances, begin to change the flux of circumstances into orderliness.</td>
</tr>
<tr>
<td>Enactment</td>
<td>Noticing, bracketing and enacting order into flux, identities/actors are shaped by externalities.</td>
</tr>
<tr>
<td>Selection</td>
<td>Retrospective attention, mental models, and articulation reduce possible meanings of the bracketed material and tentative and provisional plausible stories are constructed.</td>
</tr>
<tr>
<td>Retention</td>
<td>Plausible stories are made more substantial when linked to past experience, connected to significant identities, and used as a source of guidance for further action and interpretation.</td>
</tr>
</tbody>
</table>

With consideration of the ways in which previous knowledge (retention) informs selections and enactments during the sensemaking process, ESR serves as a
conceptual framework for analyzing system resilience (reciprocal system-environment exchanges) and accountability. When previous knowledge and experience are used ambivalently, we not only benefit from lessons learned, but also can update our understanding of, and responses to, our environment, including how “outsiders” treat us (Weick et al., 2005, pp. 414, 416). Through growth, development, change, and continuous learning, systems can create, elaborate, or change structures. The ESR sequence captures this dynamic, the tension between the ongoing reenactment of the current system and innovation and adaptation. Whether the system’s sensemaking resources are enacted or contested, the response is always a contribution to the ongoing production and reproduction of the system. For these responses, both the system and individuals are accountable.

How we construct the explanations we construct, why, and with what effects is the focus of sensemaking that is captured in the ESR process. Applied to this research project, the ESR sequence is used as a guide for revealing the processes and structures that shaped the accounts of pre-9/11 intelligence failures and accountability documented in the 9/11 Public Hearing Transcripts. Additionally, it will inform a subsequent discussion on practical implications for building organizational resilience.

Overview of Similar Studies

The research design for analyzing selected excerpts from the 9/11 Public Hearings has been informed by Dombrowski’s (1991) qualitative textual analyses of testimonies and reports relating to the space shuttle Challenger accident. Dombrowski’s (1991) study was designed to elucidate whether the decisions leading to the shuttle accident were primarily determined by procedures or by an individual who then used procedures to effect or justify a decision. Descriptions of decisions and decision-making processes were extracted from the testimonies presented to the Presidential Commission on the Space Shuttle Challenger Accident and the Ninety-
ninth Congressional Committee on Science and Technology, the two principal
government agencies investigating this disaster. The portrayal of decisions and
decision-making processes were also extracted from the reports of the Presidential
Commission and Congressional Committee. Excerpts were organized into three
categories of judgments: PE – people primarily; PR – procedures primarily; and AM
– ambiguous, indeterminate, or balanced. Findings from each of the categories were
summarized and supported by excerpts. Conclusions were drawn, e.g.:

The evidence and testimony before both the commission and the committee
show that personal judgment in all its contingency and fallibility, rather than
procedural shortcomings, accounts for the loss of the Challenger. The
conclusions and recommendations of both investigations (especially of the
[President’s] commission), however, make little mention of personal
judgment or responsibility. (Dombrowski, 1991, p. 213)

Implications for future practice were presented, e.g.:

We need to be mindful in professional communication and public policy
discussion of the nature of humans as language-using creatures guided by
their own constructions, for these same constructions, while powerfully
operative, are often left hidden and unacknowledged. We should, for
example, resist the inclination to accept uncritically the “bottom-line”
conclusions and recommendations of reports, instead taking pains to identify
the methodological and conceptual assumptions which condition these
conclusions and recommendations. (Dombrowski, 1991, p. 215)

Additional qualitative textual analyses that have informed the methodology
for this research include Lighthall’s (2002) analysis of published and archival
testimony of participants in the decision to launch the Challenger, for the purpose of
identifying lessons for training engineers and management and Gross and Walzer’s
(1997) analysis of the explanations of the cause of the Challenger disaster by the
Presidential Commission.

The Case of 9/11

The following provides an overview of the methodology I used for identifying and analyzing excerpts from the 9/11 Public Hearing Transcripts. In the first phase of this research, I printed a copy of the HTML transcripts located on the website of the National Commission on Terrorist Attacks upon the United States. The HTML transcripts (approximately 2000 pages) were chosen over PDF files (approximately 3000 pages) due to the larger number of pages in the PDF file. Each of the transcripts for the nineteen days of hearings was placed in a manila folder; each folder was given a name that reflected the hearing number and day of the hearing (e.g., 2.2 indicated the second hearing, the second day of the hearing).

I initially read through each of the nineteen transcripts to accomplish a high level understanding of the content. During this review of the transcripts, all testimony relating to information, intelligence, and intelligence failures was highlighted in yellow. Testimony relating to accountability and performance management (e.g., goals, standards) was highlighted in blue. During this reading of the transcripts, each of the transcripts was reviewed several times. Before moving on to the next day of testimony, I reviewed and re-reviewed the transcripts to ensure that I had a grasp of the content of the testimony, I had color-coded the testimony appropriately, and there was no question in my mind that I could clearly articulate the link between the content of the transcript and the color coding assigned to it.

At this stage of the research, I decided to err on the side of too many examples. To this end, any doubt I had about the applicability of testimony to this research project resulted in a decision to highlight it and include it for future review and decision making. It was also during this phase of the research project that I came to realize that intelligence, intelligence failure, and accountability dominated
the focus of the 9/11 Public Hearings. At the end of this initial review of the project, the majority of each of the transcripts appeared as yellow, blue, or green highlights. As a result, throughout the project, I vacillated between having the good luck of having so much data and being overwhelmed by the amount of material.

The second reading of the transcripts was divided into two phases. First, I read all the yellow-highlighted testimony for each of the nineteen days of the twelve hearings. During this reading, I labeled each of the yellow-highlighted passages in the transcripts by selecting language from the passage as a label to reflect its content (e.g., sharing of information), wrote this label on a yellow post-it note, and attached the post-it note to the highlighted page. The hearing number, day of the hearing, and page number of the highlighted testimony were also written on the post-it note in the event it became separated from the transcript. The sticky side of the post-it note was attached vertically to the document. The label assigned to the transcript was written on the opposite end of the post-it note. This way, I could flip through a file and fairly easily locate the various labels. Second, I read all the blue-highlighted testimony for each of the hearings. Using blue highlighted post-it notes, I repeated the above process.

During the third review of the transcripts, I focused on the labels attached to testimonies on information, intelligence, intelligence failures, and accountability. For each of the identified labels (e.g., access to information), I used Microsoft Excel to compile related excerpts, noting the hearing number, day 1 or day 2 of the hearings, and the verbatim excerpt on a spreadsheet. After compiling labels and verbatim excerpts from only a few days of transcripts, I realized the approach was too cumbersome for the amount of testimony related to this project. My second effort focused on compiling, for each of the labels, only the hearing numbers, days of the hearing, and page numbers of the testimonies. This approach was productive, in the sense that it provided the location for each of the related excerpts but not a grasp of
the content. At this point, I realized I must work directly from the transcripts.

With pads of flipchart paper, nineteen manila folders, and a copier, I moved the project from an office desk to the floor, walls, and dining table in the great room of my house. Because of the large number of excerpts attached to various labels, I took each previously identified label (e.g., flow of information) and traced its path through the nineteen days of hearings. Label by label, I compiled topics discussed during the 9/11 Public Hearing Transcripts and related excerpts. One label at a time, I took notes and taped copies of related excerpts to flip chart pages. Similar statements were grouped together on the flipchart pages (e.g., copies of excerpts or notes from the transcripts blaming the President for 9/11 were situated on the page, separate from the testimonies blaming the intelligence community for 9/11). As a result, categories began to appear. After reviewing the nineteen transcripts and placing notes and copies of testimonies on the flipchart pages, the flipchart pages began to tell a story about the particular label under review at that time. For example, it was during this process that I came to understand the frequency and consistency of the definition of intelligence that was dominating the 9/11 Public Hearing Transcripts. It was also during this process that I was able to identify less frequently-used definitions of constructs. This process also allowed me to review my previous decisions and once again assess the fit between the content of the transcript and the label attached to it. Occasionally, labels were reassigned to other categories. At the end of this step, I was able to identify the constructs and meanings that dominated the transcripts. Repetitive use of words and meanings was the criterion for identifying dominant constructs.

Once dominant constructs were identified, the selection of excerpts for the dissertation became a challenge due to the overwhelming number of examples for any of the dominant constructs. I selected excerpts for this dissertation that, consistent with other possible excerpts, more clearly reflected the use of the
construct by the witnesses and commissioners.

Once dominant constructs were identified, they were reviewed to determine if system knowledge and experience (e.g., organizational constraints, organizational premises, plans, expectations, acceptable justifications, and traditions) (Weick et al., 2005, p. 409) had served as a resource in the dominant constructions of pre-9/11 intelligence failures and accountability in the 9/11 Public Hearing Transcripts. A system sensemaking resource qualified as such if it had informed the construction of multiple constructs. Additionally, I reviewed excerpts that challenged the dominant explanations of events leading to 9/11, for prospects of alternative perspectives on system failure and accountability and a new vocabulary for constructing accounts of system resilience and accountability. Using the PDF search function, language from the HTML file was used to locate and cite the page numbers of excerpts in the PDF file also on the website of the National Commission on Terrorist Attacks upon the United States.

The findings from this analysis of the 9/11 Public Hearing Transcripts are presented in the following format. Chapter Three provides a detailed discussion of the construction of intelligence failure documented in the 9/11 Public Hearing Transcripts. Verbatim excerpts from the 9/11 documents will be used to support claims. Chapter Four provides a detailed analysis of the dominant accounts of accountability in the 9/11 Public Hearing Transcripts, along with supporting verbatim excerpts from the transcripts. Chapter Five discusses the dominant sensemaking resources that informed the accounts of pre-9/11 intelligence failures and accountability in the 9/11 Public Hearing Transcripts. Practical implications for future system resilience and accountability, based on a discussion of the theory of autopoiesis and accounts of intelligence failures and accountability in the 9/11 Public Hearing Transcripts, are presented.
CHAPTER THREE
THE CONSTRUCTION OF INTELLIGENCE IN THE 9/11 PUBLIC HEARING TRANSCRIPTS

On March 31, 2003, the National Commission on Terrorist Attacks upon the United States officially opened the 9/11 Public Hearings. A number of witnesses who had “a particular interest” in the events of September 11, 2001 (Kean, 1.1.10) appeared before the Commission during the various sessions of the 9/11 Public Hearings. These included survivors of the attack, families of victims, first responders, public officials, scholars and practitioners in the areas of national security and policy, and congressional members who sponsored legislation that brought the Commission into existence (see Appendix A for the dates of the twelve Public Hearings, Appendix B for the members of the National Commission on Terrorist Attacks upon the United States, and Appendix C for a list of witnesses cited in this paper).

These Commissioners and witnesses may have had various particular interests for participating in the 9/11 Public Hearings (Kean, 1.1.10), but there was at least one point of consensus from which all subsequent testimonies ensued, not only during the first session of the public hearings but throughout the twelve hearings: On September 11, the United States government failed at its primary duty to provide common defense (Push, 1.1.163) and protect its people (Gorelick, 1.1.163).

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1 Twelve Public Hearings were conducted by the National Commission on Terrorist Attacks upon the United States. Transcripts from nineteen days of testimony are retained as pdf Federal records managed by the National Archives and Records Administration (see Appendix A for the url to the pdf file for each of the hearings). These web pages were frozen on September 20, 2004, at 12:00 a.m. Seven of the twelve hearings were two-day sessions. References to testimony presented during two-day hearings are designated in this dissertation by hearing.day.page. For example, 1.1.4 cites Hearing 1, day 1, page 4. Twelve of the Public Hearings were single-day hearings and are cited as hearing.page. For example, 4.19 cites Hearing 4, page 19. In each instance, the name of the Commissioner and witness providing the testimony is provided.
1.1.36). For the friends and families of the victims, the survivors of the attack, the Commissioners, and members of Congress who had sponsored the legislation that brought the Commission into existence, “The September 11th attacks represented a massive failure in the most fundamental duty of our government: the security of the American people from foreign attack” (McCain, 2.1.7).

Commissioner Cleland, in his opening statement, admitted, “Almost without question, we could and should have been better prepared, we know that, to protect our homeland against the terrorist assault” (1.1.57). Clearly, the pre-9/11 attacks by al Qaeda, such as the 1993 bombing of the World Trade Center and the 2000 attack on the USS Cole, were not sufficient to:

- Make intelligence bureaucracy shed their turf-consciousness and their Cold War mentalities or our border-control agencies to overcome inertia and budget shortfalls or the airlines and airports to tighten security, even if it meant some added inconvenience to the traveling public or the executive or legislative branches to prioritize homeland security above other spending programs. (Cleland, 1.1.61)

According to Commissioner Kean (2.2.7), nobody had anticipated this kind of event and the government was unprepared for it.

In portrayals such as the one presented by Cleland, the dominant construction of intelligence and its role in the events leading to 9/11 emerged. 9/11 was not a failure of a single person or a department of government but rather a systemic breakdown, and problems associated with intelligence, as well as other functions, contributed to this failure. According to the final report of the Joint Congressional Intelligence Committee Inquiry, quoted by Commissioner Cleland during the Public Hearings:

“Prior to September the 11th, the intelligence community was neither well organized nor equipped and did not adequately adapt to meet the challenge
posed by global terrorists focused on targets within the domestic United States. These problems greatly exacerbated the nation’s vulnerability to an increasingly dangerous and immediate international terrorist threat inside the United States.” (Cleland, 1.1.57-58)

Cleland assumed the Commission would not only affirm those intelligence deficiencies but would find corresponding lapses in border control, aviation security, and a host of other fields (Cleland, 1.1.56). Others agreed. Whatever failures occurred in the intelligence agencies may have been matched in seriousness in other agencies (Pelosi, 2.1.5; see also Graham, 2.1.27; Kean, 2.2.1; Shelby, 2.1.26). Investigating these myriad failures was the charge to the National Commission on Terrorist Attacks upon the United States (McCain, 2.1.8).

The 9/11 Public Hearing Transcripts officially document the discourse of the 9/11 Public Hearings. This chapter, drawing on the documented testimony in the Public Hearing Transcripts, presents the recurring themes that emerged during the hearings. The following are discussed:

1. Definitions that are relevant to an understanding of the accounts of pre-9/11 intelligence failures provided by witnesses and Commissioners in the 9/11 Public Hearings.

2. The themes that dominated the constructions of pre-9/11 intelligence failures by the 9/11 Public Hearing participants.

3. The conditions within which these stories became dominant constructions in the 9/11 Public Hearing Transcripts.
“Perhaps intelligence is a term . . . that exists in an ‘Alice in Wonderland’ world where words can mean whatever one capriciously says that they mean” (Ransom, 1975, p. 154).

In an effort to understand better how the 9/11 terrorist attacks on the United States could have happened in a nation that is as militarily, technologically, and economically strong as the United States (Kean, 1.1.6), the 9/11 Commission investigated, along with myriad other failures, the “failure of intelligence” (Jenkins, 1.1.305) so it could be “improved” (Ben-Veniste, 1.1.93) or “fixed” (Harman, 2.1.38). The following review of definitions from scholars and practitioners in the areas of national security and policy are provided as a backdrop to the accounts of pre-9/11 intelligence failures that are presented in the next section of this chapter.

**Intelligence**

Intelligence, in the context of national security, is information (Berkowitz, 1996, p. 35). What distinguishes it from other information is its purpose or use. In the context of national security, intelligence is what decision makers need to know before choosing a course of action (Ransom, 1970; Rosenbaum, 1971; p. 114). It is information that serves the interest of policymakers (Bruemmer, 1992, p. 890), assists those who implement policy (Berkowitz & Goodman, 1989, p. 109), and improves decision makers’ ability to understand issues (Goodman, 1984-85, pp. 161-162). It includes gathering, interpreting, and selectively communicating national security information to decision makers. Ultimately, all intelligence activities should inform the decisions or further the policies of the President (Flanagan, 1985, p. 67).

In common usage, the word *intelligence* has come to have many meanings (e.g., espionage, covert political interventions, paramilitary action, and counterterrorism). In fact, Ransom pointed out in 1975, the word *intelligence* has no precise meaning in common usage: “Presidents (e.g., Ford) and even secretaries of
defense (e.g., Schlesinger) and directors of central intelligence (e.g., Colby) have exhibited the common, careless habit of referring to ‘intelligence’ as meaning both information and secret political action” (Ransom, 1975, p. 154). According to Ransom (1975), this is not just a matter of semantics. The sloppiness of the definitional problems “has affected the methods of organizing and managing American intelligence agencies” (Ransom, 1975, p. 154). For example, the usage of the word intelligence to refer to both information and secret political activity can result in information being excessively classified, an issue that was of great interest to the Commissioners during the 9/11 Public Hearings. Ransom added, “Conceptual confusion about ‘intelligence’ makes solutions difficult” (Ransom, 1975, p. 154).

Intelligence Production

Intelligence production is a "linear and single-tracked" process (Berkowitz, 1996, p. 47) by which information is acquired and converted into a product for “consumers’ of this information“ (Flanagan, 1985, p. 62; see also Berkowitz, 1996, p. 47). The process involves several functions: collecting data, analyzing it, and disseminating the final product (Ben-Veniste, 6.50; Berkowitz, 1996, p. 47; Berkowitz & Goodman, 1989; Cline, 1989-90, p. 695; Deutch, 4.30; Goodman, 1984-85, p. 161; Kean, 6.3; Schulhofer, 6.5; Ziglar, 7.1.134). In theory, the intelligence product begins and ends with policymakers who are the consumers of the information. In practice, it is up to the managers to gauge and anticipate policymakers’ needs (Schlesinger, 4.3).

Among the most important sources of intelligence are foreign and domestic media, reports on political and social developments from various government agencies around the world, a number of intelligence organizations, and military intelligence services (Flanagan, 1985, p. 64). These collection entities produce a tremendous volume of information that must be sorted, processed, and converted into “raw intelligence reports’ that can be disseminated to intelligence analysts and,
in some instances, policymakers (Flanagan, 1985, p. 64). Analysts use the collected data to develop products that are then coordinated, edited, and delivered to the consumer (Berkowitz, 1996, p. 47). “Finished intelligence” represents a very careful review of information from all available sources by analysts or analytic teams who are familiar with the issue or the geographic regions (Flanagan, 1985, p. 65). In this context, available sources refers to agencies and departments authorized to collect and transmit national security information. The Central Intelligence Agency, Defense Intelligence Agency, and the State Department’s Bureau of Intelligence and Research are principal producers of national level finished intelligence (Flanagan, 1985, pp. 61, 65).

Additionally, the line between raw intelligence (i.e., data) and finished intelligence, (i.e., information that has been reviewed for national security decisions and policymaking) is blurry. In terms of the ESR Sensemaking Sequence (Chapter Two), the difference between data and finished intelligence is the difference between numerous possible meanings and fewer plausible explanations. Guided by mental models acquired during work, training, and life experience, the multiple possible meanings of data are reduced to these fewer plausible explanations (Weick, Sutcliffe, & Obstfeld, 2005, pp. 411, 414). In this way, people make sense of, and respond, to equivocality.

**Intelligence Community**

For ease of reference, the agencies and departments that are involved in foreign intelligence or counterintelligence activities (Flanagan, 1985, p. 60) are collectively known as the Intelligence Community. Authorized by the National Security Act of 1947 and subsequent orders, the Intelligence Community is responsible for “intelligence activities ‘necessary’ for the conduct of foreign relations and the protection of the National Security of the United States” (Goodman, 1984-85, p. 161).
The agencies formally designated as members of the pre-9/11 Intelligence Community included the Central Intelligence Agency (CIA), the Defense Intelligence Agency (DIA), the National Security Agency (NSA), the military and special collection offices in the Pentagon, the State Department’s Bureau of Intelligence and Research (INR), the Treasury Department’s Office of Intelligence Support, the Federal Bureau of Investigation (FBI), and a unit of the Department of Energy (Deutch & Smith, 2002, p. 66; Goodman, 1984-85, p. 161; National Commission on Terrorist Attacks upon the United States, 2004, pp. 407-408). Figure 2 is a snapshot of the Intelligence Community on the eve of September 11, 2001.

Figure 2
Pre-9/11 U.S. intelligence community


An overview of the agencies reviewed by the 9/11 Public Commission follows. It is important to note that many of the structures and functions in place during the
Cold War continued to be in place on the eve of the 9/11 terrorist attacks. Changes had been made, only slowly, “at an incremental pace” (National Commission, 2004, p. 407).

On the eve of September 11, the Director of Central Intelligence (DCI) had authority for the coordination of the various agencies and entities that constituted the Intelligence Community. However, a number of departments with intelligence missions had some independence from the DCI, “in order to serve their unique departmental needs” (Flanagan, 1985, p. 58; see also Deutch, 4.18). The only agency directly controlled by the DCI was the CIA (Bruemmer, 1992, p. 868; Goodman, 1984-85, p. 161; National Commission, 2004, pp. 409-410).

The CIA had the broadest mandate of all Intelligence Community agencies. It supported the DCI in the coordination of community functions. It was also involved in the production of a broad array of intelligence reports, counterintelligence activities abroad, clandestine collections of foreign intelligence, and the development of data collection systems supported by technology. Although the CIA had the broadest mandate, the lion’s share of the national intelligence resources and personnel were in the Department of Defense (Flanagan, 1985, p. 61; Kerr, 4.72; National Commission, 2004, pp. 409-410).

The Defense Intelligence Agency (DIA) provided intelligence and counterintelligence support to the Office of the Secretary of Defense, the Joint Chiefs of Staff, and the Unified and Specific Command operations; additionally, the DIA coordinated intelligence activities of the military services (the foreign intelligence and counterintelligence activities of the Army, Navy, Air Force, Marine Corps, and various offices that collected specialized intelligence that supported national, department, and military service needs) (Deutch & Smith, 2002, p. 66; Flanagan, 1985, p. 61; National Commission, 2004, p. 408).

The National Security Agency (NSA), under the authority of the Secretary of
Defense, was responsible for the operation of the nation’s technical intelligence systems (e.g., satellites) and the CIA carried out human intelligence (i.e., clandestine collection of foreign intelligence). The Secretary of Defense and the DCI shared authority for setting priorities for the collection of foreign intelligence (Deutch & Smith, 2002, p. 65; Flanagan, 1985, p. 61; National Commission, 2004, pp. 407, 409). In the case of foreign threats within the United States, the Federal Bureau of Investigation (FBI) had the responsibility for setting and implementing intelligence collection priorities.

The Department of State’s Bureau of Intelligence and Research (INR) produced “finished” intelligence tailored to the Department’s needs and participated in the development of national intelligence reports, coordinated the State Department’s relationships with other foreign intelligence agencies, and distributed reports from the United States diplomatic and consular posts abroad to the Community (Flanagan, 1985, p. 61; National Commission, 2004, p. 408).

The Department of the Treasury maintained a small intelligence unit which, in cooperation with the State Department, collected openly available financial, monetary, and economic data for use in the department and in national intelligence products (Flanagan, 1985, p. 62; National Commission, 2004, p. 408).

Oversight of intelligence activities was performed by several executive and legislative branch entities including the President, National Security Council (NSC), and Senate and House permanent intelligence oversight committees. The Office of Management Budget (OMB) influenced intelligence policy by reviewing budget proposals and justifications, monitoring the Community’s budgeting process, and providing the DCI with a budget (Flanagan, 1985, p. 72; National Commission, 2004, p. 410).

The intelligence activities of the Treasury and State Departments, the military services, and the counterterrorism role of the FBI predated the CIA. In 1947, when
nation states such as the Soviet Union were the envisioned enemy of the United States, the National Security Act established the CIA as the preeminent U. S. government agency to receive and interpret foreign intelligence from all sources. The act also codified the position of the Director of Central Intelligence (Bruemmer, 1992, p. 867). The effect was the organization of U. S. intelligence functions based on the distinction between domestic law enforcement and foreign national security concerns. The FBI was responsible for the former and the remainder of the Intelligence Community (e.g., the CIA, NSA, and DIA) was responsible for the latter. This fragmented approach to intelligence, conceived in 1947, continued to affect the way the U. S. organized and managed intelligence for the remainder of the 20th century and the beginning of the 21st century:

- Law enforcement’s focus is to collect evidence after a crime is committed in order to support prosecution in a court of law. The FBI is reluctant to share with other government agencies the information obtained from its informants for fear of compromising future court action. On the other hand, the CIA collects and analyzes information in order to forewarn the government before an act occurs. The CIA is reluctant to give the FBI information obtained from CIA agents for fear that its sources and methods for gaining that information will be revealed in court. (Deutch & Smith, 2002, p. 64)

The FBI had primary responsibility for counterintelligence and counterterrorism within the United States. The CIA and DIA had primary responsibility for threats to the U. S. that “would come from overseas or be overseas” (Roemer, 1.1.302). This fragmented approach to intelligence, in place on the eve of the 2001 terrorist attacks, was a concern that dominated testimonies of witnesses during the 9/11 Public Hearings.

Definitions of intelligence and Intelligence Community used by scholars and practitioners in the fields of national security and policy have been provided as a
backdrop to the accounts of pre-9/11 intelligence failures that are presented in the next section of this chapter. Keeping in mind that our definitions “create what we disingenuously pretend they merely describe” (Carey, 1989, p. 32), it is not unreasonable to assume that the following may be encountered in the reading of the 9/11 Public Hearings:

1. One of the uses of the word *intelligence* in the Public Hearing transcripts will denote information that has been gathered, analyzed, and disseminated for national security purposes (e.g., decisions and policymaking).

2. Intelligence will be treated as a product or a thing that can be gathered, analyzed, and disseminated.

3. The words *intelligence* and *information* may be used imprecisely and interchangeably as a matter of course.

4. The descriptions of the methods and practices for organizing and managing pre-9/11 intelligence will resonate with the above definitions of *intelligence* and *Intelligence Community*, as these definitions dominated scholarship and practice during this period of time. For example, intelligence is defined in the literature and practice as information provided by the Intelligence Community for the purpose of national security decision or policymaking. In the 9/11 Public Hearing Transcripts, we can expect the line between what is and is not intelligence and who does/does not inform policymaking to be similarly demarcated. In this vein, we may encounter testimony regarding valuable information that was generally available (i.e., information relevant to 9/11), but was not treated as intelligence because it was not coming from an intelligence official.

5. The Commission’s charge to identify intelligence failures and provide recommendations will lead to an in-depth exploration of the intelligence process (i.e., the collection of information, its analysis, and the dissemination
of intelligence), as it was generally believed that “failure in any of these steps” would lead to intelligence failure (Cline, 1989-90, p. 695; see also Berkowitz & Goodman, 1989).

6. The intelligence failures identified by the 9/11 Commission (e.g., the fragmented nature of U.S. intelligence) and the solutions to these problems (e.g., reorganization of the Intelligence Community) will be logical extensions of the dominant definitions of intelligence and Intelligence Community that were in place during the investigation of 9/11.

Intelligence: Constructions in the 9/11 Public Hearing Transcripts

The ESR sensemaking model (Weick et al., 2005) provides a conceptual and methodological framework for understanding system failure/resilience. Using this model, system resilience can be viewed in terms of the reciprocal exchanges between ecological changes (environment) and actors (system). These exchanges become meaningful as labels are attached to “the undifferentiated flux of experience,” and used as “common currency for communication exchanges” (Chia, 2000, p. 517). The labels that are attached to the flux of experience narratively reduce the stream of experience to plausible stories. These stories are important, as they have the potential for guiding future interpretations of events and actions (Weick et al. p. 415).

Keeping in mind the prospective as well as retrospective nature of sensemaking, this chapter identifies the five dominant themes in the accounts of pre-9/11 intelligence failures provided by witnesses and Commissioners during the 9/11 Public Hearings:

1. Flow of information
2. Actionable intelligence
3. Coordination and sharing of information
4. Access to information
5. Dominance of law enforcement and prosecutorial approach to terrorism

These stories appeared during the official opening of the 9/11 Public Hearings on March 31, 2003, and reverberated throughout the twelve public hearings. With hindsight, we see these topics recurring and coalescing into dominant descriptors for the pre-9/11 failures in intelligence.

This section focuses on each of the five themes that dominated the Commissioners and witnesses’ constructions of events leading to the failure of 9/11. In the concluding section of this chapter, I review these five constructs to determine the conditions within which these stories became dominant constructions in the 9/11 Public Hearing Transcripts. Similarly, the next chapter identifies and discusses the dominant constructions of accountability in the Public Hearing Transcripts.

Flow of Information

It is not surprising that flow of information was a recurring theme in witness accounts of pre-9/11 intelligence failures, as this concept, flow of information, was at the heart of the intelligence production model that dominated scholarship and organizational practices at the turn of the 21st century. In theory and practice, national security intelligence was defined as the product of a process in which information is collected from various sources in the field, disseminated to analysts for further analysis, and then further disseminated for the purpose of decision and policymaking. Critical to this process was the movement or flow of information through this intelligence production process (Axley, 1984; Feldman and March, 1981).

In the 9/11 Public Hearing Transcripts, the movement or flow of information was generally depicted as a “one-way street” of information. For example, Commissioner Ben-Veniste (1.1.93) used this metaphor to characterize the flow of information from the FBI to state and local authorities. The flow of information to the Federal Aviation Administration (FAA) was similarly characterized. According to
Schiavo, former Inspector General for the Department of Transportation, it was the responsibility of the FBI to assess a threat and then provide intelligence, which the FAA “fans out” to the airlines (2.2.95); that is, they transmitted advisories, warnings, etc. (Canavan, 2.2.60). The process from December 2000 until October 2001 was outlined by Canavan, FAA Associate Administrator for Civil Aviation Security:

Throughout 2001, as the intelligence reporting volume increased . . . my office issued at least 15 information circulars . . . focusing on domestic and international terrorism threats directly against aviation. . . .

For example, one information circular . . . issued in the summer of 2001 updated airline security personnel of developments that terrorists and criminals had in disguising firearms. . . .

We pushed real hard to get everything we got from the intelligence community into the field. (Canavan, 2.2.60-61, 68)

The FAA, cast as consumers of intelligence, relied completely on the Intelligence Community (U.S. agencies and departments authorized to conduct foreign intelligence and counterintelligence agencies) to provide the best quality of intelligence so they could issue information circulars to the aviation industry, security professionals, corporate security directors, senior management personnel, ground security coordinators, supervisory personnel at overseas locations, local airline managers, and law enforcement when appropriate and on a need-to-know basis (Canavan, 2.2.61). During the summer of 2001, the entire United States Counterterrorism Group, including law enforcement and intelligence agencies, sent out notifications that heightened security measures should be put into place immediately. During this period, the FAA advanced this information in the form of Security Directives and Information Circulars to airlines, airports, and all officials for whom it had regulatory oversight (Canavan & Fielding, 2.2 84). These initiatives were intended to “get them to conform to the existing regulations” (Canavan &
During the 9/11 Public Hearings, witnesses from North America Air Defense (NORAD) also relayed an account similar to the one presented by the FAA. Restricted by law from collecting domestic intelligence (Verga, 7.1.144), the department of Defense relied on the other in the Intelligence Community for domestic intelligence. This intelligence served as the basis for developing training, tactics, and procedures for combatant missions.

In accordance with pre-9/11 reports from the Intelligence Community, NORAD defense forces were positioned for external threats to the United States and were therefore looking “outward” (Verga, 7.1.159). The FAA was also looking outward, as they too had received intelligence indicating the impetus of the heightened state of alert during the summer of 2001 was “overseas” (Garvey, 2.1.91, 93, 98). In both instances, according to witnesses from FAA and NORAD, neither had any specific intelligence indicating a domestic terrorist threat to commercial aviation prior to the attacks.

Commissioner Lehman found the un-preparedness of FAA and NORAD for the terrorist attacks on September 11 to be an incredulous sequence of events:

Despite [a] long litany of events and intelligence reports of the growing probability that aircraft would be used as weapons, nothing ever got to [Mineta, Secretary of Transportation], nothing apparently got to [General McKinley], and I assume, General Arnold, nothing got to you. (2.2.31). This according, to Lehman, was a significant failure. The United States intelligence community existed “to provide product precisely” to the users who were tasked with defending the country (Lehman, 2.2.31).

There are numerous examples in the 9/11 Public Hearing Transcripts where consumers of information testified that the flow of critical information had been impeded such that they had not received the intelligence that might have assisted
them with foreseeing or deterring the attacks of 9/11. For example:

1. The FAA had no knowledge of the “Phoenix” memo, an internal FBI memo written in July 2001, suggesting the Bureau investigate the use of civil aviation schools by individuals who may be affiliated with terrorist organizations (Raidt, 7.2.7).

2. The Commissioner of Immigration and Naturalization Services (INS) was not briefed or advised of a heightened period of alert with respect to the possibility of Islamic fundamentalist terrorist activity when he assumed the position of Commissioner in August of 2001, nor was he aware of anyone in the National Security Section of INS who was aware of it (Ben-Veniste & Ziglar, 7.1.146-147).

3. The Bureau of Consular Affairs had not received intelligence on any of the 9/11 hijackers from “the agencies designed to collect it,” although some agencies possessed information on two of the terrorists who would participate in the September 11 attacks (Ryan, 7.1.19).

4. Two of the hijackers were on a watch list established by the State Department, but these names were not provided to the FAA; consequently, two hijackers, Khalid al Mihdhar and Nawaf al Hazmi, were not subject to additional scrutiny or barred from flying (Zelikow, 7.2.14-15).

5. Information from the FBI and CIA on al Qaeda’s use of fraudulent passports was not available to Customs, Immigration, or Consular officials who examined hijacker passports before 9/11 (Ginsburg, 7.1.4-5).

6. Immigration inspectors were not given any information that would have prevented them from admitting any of the hijackers into the country (Fine, 1.2.39).

These examples are presented to illustrate how flow of information, a dominant construct in the 9/11 Public Transcripts, was used by the Commissioners
and witnesses in their accounts of the pre-9/11 intelligence failures. Commissioner Ben-Veniste stated it as a “fact” (7.1.146):

We had a considerable amount of collected intelligence prior to 9/11, but it seems as though our failures involved the inability to disseminate . . . the information in a way in which we could interdict those individuals who participated in the 9/11 plot. (Ben-Veniste, 7.1.146)

The question was, how could it be that “the product did not get” to those who could use it? (Lehman, 2.2.32)

Discussions on flows of information in the Public Hearing Transcripts centered on the distribution of intelligence; that is, the Intelligence Community had not distributed the information to its consumers. Primarily, consumers of intelligence testified that they were not provided or did not receive the intelligence that would have assisted them with foreseeing or deterring the attacks. This emphasis on information transfer (Eisenberg & Goodall, 1993, pp. 22-24) reflected several fundamental assumptions that dominate organizational practice and scholarship, including the fields of communication and national security and policy, during the 20th century and the early years of the 21st century:

1. Intelligence is a concrete substance that travels, or is moved, from one place to another. In the Intelligence Community, as well as in the 9/11 Public Hearing Transcripts, intelligence was referred to as a product that was disseminated by the Intelligence Community to its various consumers.

2. The receipt, or non-receipt, of intelligence causally or quasi causally affected the performance of the consumers of intelligence. In the 9/11 Public Hearing Transcripts, consumers of information testified they were not prepared for, or in a position to deter, the 9/11 attacks because they had not received relevant information from the Intelligence Community.
3. Success of intelligence transmission is mitigated by breakdowns, defined as problems during the transmission of information that cause the flow to stop completely; barriers, defined as obstacles that simply impede or slow down the message during the transmission process; or gatekeeping, defined as the control of the information flow by the source, with the source of the information determining who receives what information (Krone, Jablin, & Putnam, 1987, p. 23). In the 9/11 Public Hearing Transcripts, it appears that information was purposefully withheld from those who could have deterred or mitigated the 9/11 terrorist attacks. For example, the FBI provided information to consumers when the bureau had something that was credible, specific, and relevant to their operations (Flynn, 7.2.41; Manno, 7.2.42). However, where there was no direct connection to a specific operation, it was very difficult to obtain clearances from the FBI to obtain access to information (Manno, 7.2.37). It appears, from this example and others, that the FBI played a gatekeeping role and controlled the distribution of intelligence information.

Although there are accounts of gatekeeping in the 9/11 Public Hearings, they are few and far between and do not in themselves account for the numerous stories of consumers not receiving information. In the end, only on a few occasions, during moments of expressed frustration, did I find the Commission struggling to gain additional insight into the recurring stories on the difficulties with the flow of pre-9/11 intelligence. On those rare occasions, and only momentarily, mainstream thinking appeared to be challenged by the Commissioners. The following two examples exemplify the occasional on-the-margin observations, if not judgments, from Commissioners.

In one example, it appears that the taken-for-granted passive role for consumers of intelligence (e.g., policymakers) was challenged:
[Should consumers of intelligence] take a much more active role in directing the priorities of what is to be collected, and direct the intelligence community to find a way to collect it rather than taking a more passive role and saying okay, tell me what’s happening. (Lehman, 4.38)

In the next two examples, the standard definition of intelligence as that which is provided by the Intelligence Community was under fire. This exchange occurred between Commissioner Lehman and Mary Ryan, Assistant Secretary of State for Consular Affairs from May 1993-July 2002:

Ryan: So I think that knowing certainly what we did in Consular Affairs, prior to September 11th, 2001, we did—we took every step that we could . . . .

Lehman: I would respectfully disagree with you. I don’t think the record shows that at all. In some of the interviewing of some of your officials that were doing the actual consular functions in Saudi Arabia at the time, they said in so many words, gosh, if we only knew . . . . Well, hello. I mean, did anybody read the newspapers? I mean, there were books. . . .

Did you only have robots . . . ? Don’t they read the papers? (Lehman & Ryan, 7.1.29-30)

Similarly, Commissioner Ben-Veniste found it “a bit fatuous” that the United States was so unprepared on September 11, given the generally available information on terrorists using airplanes (2.2.27), as well as “reports floating around in the intelligence community” and “about a half a dozen novels and movies” about airplanes being used as weapons (Lehman, 2.2.14).

In the 9/11 Public Hearing Transcripts, a dominant construct shaping the accounts of pre-9/11 intelligence failure was flow of information; information that was not sent, provided, or disseminated was the meaning most often attached to this construct by the Commissioners and witnesses. On the surface, it may appear as a gatekeeping issue; that is, the Intelligence Community was withholding critical
information. And in some instances, that was the case. A closer look, however, may challenge the conceptual and definitional models of intelligence and Intelligence Community that had informed both pre-9/11 intelligence work and its analysis by the 9/11 Commission.

Actionable Intelligence

“We really had no credible or actionable intelligence that told us this was really going to happen. In other words, this is a real threat, we are hearing, this, this, this, this and this” (Canavan, 2.2.85).

One of the questions posed by the Commissioners on the first day of the 9/11 Public Hearings was, “How do we improve . . . actionable intelligence . . . the specifics of that information . . . the right information” (Roemer, 1.1.103)?

References to receiving, or not receiving, specific, right, hard, credible information, that is, actionable intelligence, from the Intelligence Community was a dominant theme in the 9/11 Public Hearings. The following composite of testimonies by various FAA witnesses exemplifies the use of this term in the public hearings.

During the spring and summer of 2001, the Intelligence Community issued reports, at a “near frantic level,” suggesting some type of terrorist attack somewhere in the world (Gorelick, 2.2.15). The entire counterterrorism community including law enforcement and intelligence agencies were placed on the highest alert, and information circulars were distributed to all interested parties (e.g., airlines, airports, and all security officials) (Canavan, 2.2.61; Fielding, 2.2.84). For example on July 18, the FAA issued information circulars stating, “We have no specific information on [a] threat to civil aviation. The FAA urges all civil aviation security personnel to continue to demonstrate a high degree of alertness” (Canavan, 2.2.83).

In the United States, this heightened level of intelligence warning about impending attacks (Gorelick, 2.2.15) was interpreted as “chatter” (Mineta, 2.2.15). The term chatter appears in the 9/11 Public Hearing Transcripts as an antonym to
actionable intelligence. Actionable intelligence refers to specific information about a terrorist attack (who, what, when, where, how) disseminated by a credible source (e.g., an agency in the Intelligence Community). Chatter, on the other hand, refers to increases in communication activity without corresponding increases in its specificity or credibility. Reports issued by the Intelligence Community, before September 11, 2001, weren't specific about what the threat might be and, as a result, did not result in any action by the government. For example, there was no indication that attacks would be focused specifically against airlines (Canavan, 2.2.61; Mineta, 2.2.14); therefore additional prevention or mitigation measures were not initiated.

The FAA responded only to specific, actionable information that was provided to them by the CIA and FBI. For example, the twenty names on the pre-9/11 FAA no-fly list had been specifically identified to the FAA by the Intelligence Community as the terrorists that the FAA ought to be concerned about (Mineta, 7.2.28). In the months preceding September 11, in response to the specific credible threat information provided to them, the FAA “worked hard to make changes in the aviation security baseline” (Garvey, 7.2.17). Where there was specific and credible information that people were actually targeting civil aviation, the names of those individuals were put on security memos directing the air carriers not to transport these people (Manno, 7.2.27). Additionally, the 61,000 names in TIPOFF (the U.S. government’s only pre-9/11 terrorist watchlist) could be searched “if you had a name” to search against the database (Manno, 7.2.27). Pre-9/11, the kinds of protocols that the FAA had in place anticipated specific kinds of crises (e.g., bad weather and Y2K) (Garvey, 2.1.108).

Although information regarding the use of airplanes as weapons of mass destruction and the possibility that this could happen in the United States was accumulating, the FAA (working with the intelligence community) in each case
deemed the source of information as not actionable; that is, it was not specific and
did not come from credible sources (Garvey, 2.1.106,114). There was “hard
intelligence” indicating serious threats against aviation in the Pacific (Flynn, 7.2.18),
but the FAA had no specific knowledge of a terrorist plot to hijack aircraft and use
them as weapons against targets in the United States, or any plot that resembled
such an operation prior to 9/11 (Garvey, Gorton, & Manno, 7.2.23). In her
testimony, Garvey reported, “The FAA did not have any credible or any specific
information which indicated the type of [domestic] attack we saw on September 11”
(Garvey, 7.2.17). There was no actionable intelligence that even hinted that there
was a real threat to aviation (Canavan, 2.2.85). According to the testimonies
provided by a number of FAA consumers of intelligence, the Intelligence Community
was providing national security information, but it was not actionable; therefore, it
did not result in the kind of preparation that one, with hindsight, might expect.

The meaning ascribed to actionable intelligence in the 9/11 Public Hearing
Transcripts resonates with the use of finished intelligence in the intelligence
production model that dominates current public administration scholarship and
practice (Flanagan, 1985, p. 65). That is, finished intelligence is actionable
intelligence; it can guide policy and decision making. In contrast, information does
not qualify as finished intelligence to be acted upon if it does not specify threats or
does not originate from formal intelligence production processes. An overview of
the kinds of information that was generally known prior to the September 11, 2001,
terrorist attacks, based on the testimony of various witnesses during the 9/11 Public
Hearings, is provided in Figure 3.
Figure 3

Information that was generally known before September 11, 2001

1960's
The beginnings of an historic pattern of terrorists targeting aviation as a surrogate target for the U.S. (Dzakovic, 2.1.131; May, 2.1.123).

1979
The taking of the U.S. Embassy in Teheran and holding U.S. Diplomats hostage for 44 days (Shays, 2.1.77).

1987-2001
The GAO repeatedly documented the ineffectiveness of the aviation system (Dzakovic, 2.1.133).

With the bombing of Pan Am 103, the world saw the devastating effects of an explosive device in checked luggage (Garvey, 2.1.88; McCain, 2.1.9).

1988
President's Lockerbie Pan Am 103 Commission found that U.S. civil aviation system was seriously flawed and had failed to provide the proper level of protection for the traveling public. FAA, according to the report, was "a reactive agency preoccupied with responses to events to the exclusion of adequate contingency planning and anticipation of future threats" (Kean, 2.1.88).

1993
Al Qaeda's first attack on America's homeland - a car bomb exploded under the World Trade Center, killing 6/8 people, injuring 1,000 people, and causing $510 million in damage (Roemer, 1.1.50; Sofaer, 1.11.1.231).

Feb 26
1993
RAND Corporation contemplated all possible forms of future attacks to the World Trade Center, including theoretical scenarios involving a plane crashing into the building (Jenkins, 1.1.251).

June 24
1993
FBI arrested eight individuals for plotting to bomb a number of NYC landmarks (Roemer, 1.1.50).

Oct
1993
Al Qaeda operatives participated in attacks that killed 18 U.S. Marines, Somalia (Sofaer, 1.1.231).

1995
Jan
Philippine National Police raid turned up materials in Manila, indicating that three individuals, including Ramzi Yousef, planned among other things to crash an airplane into the CIA headquarters, Langley, VA (Roemer, 2.1.113).

1995
Bojinka Plot in the Philippines (Cleland, 1.1.60): Ramzi Yousef's plan to bomb as many as 12 U.S. jetliners nearly simultaneously by putting explosive devices on board (Garvey, 2.1.89).

1996
Jun 26
Car bombs killed 19 Americans in Saudi Arabia and injured another 200. The U.S. suspected Osama bin Laden and al Qaeda (Sofaer, 1.1.231-232).

Oct 12
1996
Osama bin Laden issued a declaration of war against the United States, calling on Muslims to "fight jihad and cleanse the land from these Crusader occupiers" (Sofaer, 1.1.232).
Figure 3 (continued)

Information that was generally known before September 11, 2001

- **1996 Nov**
  - Bombings in Riyadh and at the Khobar Towers barracks killed 19 American servicemen and injured 109 (Sofaer, 1.1.232).

- **1998**
  - Embassy bombings in Kenya and Tanzania (Sofaer, 1.1.232).

- **1998 Feb**
  - Al Qaeda declared war on the United States (Roemer, 1.1.51), declaring the "killing of Americans and their civilian and military allies is a religious duty for each and every Muslim" (Sofaer, 1.1.232).

- **1998 Aug**
  - The intelligence community obtained information that a group of unidentified Arabs planned to fly an explosive-laden plane from a foreign country into the World Trade Center (Roemer, 2.1.113).

- **1998 Sep**
  - Al Qaeda terrorist car bombed the U.S. embassies in Kenya and Tanzania, killing 224 people and injuring about 5,000; the U.S. indicted Osama bin Laden on 224 counts of murder (Sofaer, 1.1.232-233).

- **1998 Nov**
  - The intelligence community obtained information that Osama bin Laden's next operation could involve flying aircraft loaded with explosives into a U.S. airport (Roemer, 2.1.113).

- **1999 Mar**
  - The intelligence community obtained information regarding plans by an al Qaeda member who was a U.S. citizen to fly a hang glider into an Egyptian presidential palace (Roemer, 2.1.113).

- **Eve of the Millennium**
  - Planned attacks against American interests (McCain, 2.1.100).

- **2000 April 6**
  - A statement from the FAA Associate Administrator to the Committee on Commerce, Science, and Transportation, Subcommittee on Aviation Security: "Moreover, members of foreign terrorists groups and representatives from state sponsors of terrorism are present in the United States. There is evidence that a few foreign terrorist groups have well established capability and infrastructure here" (Dzukovic, 2.1.131).

- **2000 Sep**
  - Suicide boat bombing of the USS Cole in Aden harbor killed 17 American soldiers, injured 40, and caused over $100 million of damage (McCain, 2.1.100; Sofaer, 1.1.233).

- **2001 Feb**
  - Hart Rudman Commission predicted a terrorist attack of great magnitude and loss of life on our own soil (Fetchet, 1.1.182).
  - In the annual support submitted by the CIA Director, terrorism rocketed from the number 3 to the number 1 position "with some very strong language. The threat of terrorism is real. It is immediate. Osama bin Laden and his global network remain the most immediate and serious threat" (Gorelick, 2.1.49).
According to multiple witnesses in the 9/11 Public Hearings, intelligence had to be actionable (i.e., provide information about a specific attack) if it were to be useful (Manno, 7.2.21). “Solid intelligence” (Fielding, 2.1.105)—that is, intelligence that had been run to the ground by the intelligence community (Garvey, 2.1.106)—was not provided; therefore appropriate actions were not taken.

During the 9/11 Public Hearings, a number of accounts of pre-9/11 intelligence failures focused on information that was not disseminated. That is, information did not flow from the Intelligence Community to national security decision makers. When witness testimonies specifically attributed the failures of 9/11 to a lack of actionable intelligence, the failures were constructed as a specificity of intelligence that was not disseminated by the Intelligence Community. This emphasis on accuracy, specificity, and completeness of information reflected two fundamental assumptions dominating organizational scholarship and practices during this period of time: (a) communication is about perfection, fidelity, and accuracy (Berlo, 1960, p. 40) and (b) “accuracy begets effectiveness” (Weick et al., 2005, p. 415). This focus on accuracy, grounded in models of rational decision making, dominated organizational thinking and practice during the end of the 20th century and the early years of the 21st century. Using rational decision making models:

A given problem is evaluated in relation to stable goals and a course of action chosen from a set of alternatives. In this model, accurate information is important in evaluating the feasibility and utility of alternative actions, and accurate perceptions increase decision quality. (Weick et al., p. 415)

Rational models of decision making are best suited for organizations that reside in stable, predictable environments. However, they are ill suited for organizations that reside in complex, dynamic, unpredictable environments, where organizations must be capable of continuously noticing, bracketing, and responding to novel events in a
continuously changing environment (Weick, Sutcliff, & Obstfeld, 2005, p. 415).
Generally, according to Wheatley (1994), our efforts to keep “the lid on” until we “get to the bottom of” unexpected, different, disconfirming, conflicting information have left our organizations “dying, literally” (p. 108). That is, in complex, dynamic environments, organizations do not have the luxury of compiling information to the point that a threat is fully understandable and, as a consequence, actionable.

Additionally, the discussion on actionable intelligence during the 9/11 Public Hearings suggests how a focus on finding and connecting dots (e.g., Ashcroft, 10.1.142, 166; Baird, 1.2.146; Ben-Veniste, 11.1.146; Fetchet, 1.1.218; Fielding, 10.1.19; Jenkins, 1.1.305; Lehman, 12.2.48; McLaughlin, 10.2.46; Reno, 10.1.62; Roemer, 10.1.110) or pieces of information draws attention away from patterns and relationships of events that unfold over time. Testimonies throughout the hearings suggest that there was “a considerable amount” of information prior to 9/11 (Ben-Veniste, 7.1.146) reflecting trends or patterns of activity leading to 9/11. This generally available information, however, was distinguished from the pieces or “dots” of information (the who, what, when, where, and how of terrorist attacks) compiled by the Intelligence Community for national security purposes.

*Coordination and Sharing of Information*

In their first report, the Commission staff (National Commission, 2004, xiii) set out to reconstruct a “story” that, in the end, is “more telling about the system than the people” (Zelikow, 7.1.78, 88). In this system, the staff concluded, no one was ensuring seamless handoffs of information or coordinating an overall interagency strategy for operations (Zelikow, 7.1.88). The staff account of pre-9/11 events, presented by Dr. Philip Zelikow (7.1.78-86), the Commission’s Executive Director, provides an opportunity to gain a greater understanding of the meaning of lack of coordination and sharing in the 9/11 Public Hearings. These events, reconstructed by the staff, began with the analysis of signals intelligence (SIGNET) by the National
Security Agency (NSA).

Near the end of 1999, NSA analyzed communications associated with three men, Khalid, Nawaf, and Salem. Combining the NSA analysis of these communications with information from other sources, officials in the intelligence community concluded that “Nawaf and Khalid [were] part of . . . ‘an operational cadre’ [and] something nefarious might be afoot” (Zelikow, 7.1.78).

If NSA had been asked to further investigate these individuals, NSA would have started by checking its own database and the following events would have been set in motion (7.1.81):

Analysts would quickly have identified Nawaf as Nawaf al Hazmi. Someone then could have asked the State Department to check that name too. State would promptly have found its own record on Nawaf al Hazmi. That record would have shown that he . . . had been issued a visa to visit the United States. They would have learned that the visa had been issued at the same place, Jeddah, and on almost the same day as the one given to Khalid al Mihdhar. (7.1.81)

But information was not requested from NSA, and NSA did not think it was its job to initiate research on its own (7.1.78).

Information reported from, and to, the intelligence community continued to reinforce “the picture of an emerging operation” (7.1.79). On January 4, 2000, officials tried to track Nawaf’s scheduled departure from Pakistan for Malaysia, only to discover that he had already left the country. Other officials had more success in tracking Khalid. They learned that his name was Khalid al Mihdhar and that he held a Saudi passport with a visa to visit the United States. When the CIA headquarters searched its database for the names that were being identified, no hits were produced. They did not check the databases at NSA and did not specifically ask NSA to do so.
January 12, 2000, officials reported that the “Arabs had dispersed and the tracking was falling apart” (7.1.82). It was not until March 2000, when another matter generated renewed interest in “those missing Arabs” (7.1.83), that Nawaf al Hazmi’s departure on a United Airlines flight to Los Angeles on January 15 was reported. Sharing this information with the FBI, from an intelligence perspective, was vital; however, the Commission staff found “no evidence that this information was sent to the FBI” (7.1.83). Mihdhar, officials later learned, had also been on the United flight to the United States of America. By March 2000, Mihdhar and Hazmi had already established a residence in San Diego. At the time, no one in the intelligence community knew this (7.1.83).

In August 2001, an FBI agent, working with a CIA agent detailed to the FBI, put together the pieces of the puzzle and “nominated” Hazmi and Mihdhar for TIPOFF, the U.S. government’s only pre-9/11 watchlist dedicated to catching terrorists (7.1.84-85). Zelikow added:

It is worth noting that the Federal Aviation Administration’s own no-fly list was totally independent from TIPOFF. . . . So, to be specific, adding Hazmi and Mihdhar to TIPOFF did not put them on a no-fly list and did not keep them from flying on September 11. (7.1.85)

Mihdhar and Hazmi were involved in the hijacking of American Airlines 77, which hit the Pentagon. The Commission staff also reported that these hijackers had previously met up with a hijacker who later joined the hijacking team assigned to United 175.

Zelikow concluded with the observation that the staff’s account of the events leading to 9/11 revealed how difficult it was for the intelligence community (e.g., the CIA, FBI, and NSA) to assemble “puzzle pieces” gathered by the different agencies, make sense of them, and then coordinate needed action with relevant agencies (e.g., FAA) (7.1.86).
It is impossible to overlook issues relating to initiative, ownership, accountability, and oversight—all of which will be discussed in the following chapters. Setting those aside for now, we can focus on the construction of coordination and sharing of information in the staff report.

According to the staff report, no one was ensuring a seamless handoff of information or coordinating an overall interagency strategy. That is:

1. NSA was not asked to further investigate, and the State Department was not asked to check their records, for Nawaf and Khalid once they had been identified as part of a disreputable operational cadre.
2. Although the State Department had its own records on Nawaf al Hazmi, the CIA did not have the names in its database.
3. Information on Hazmi’s flight to Los Angeles was not reported to, or shared with, the FBI.
4. Putting the names of Hazmi and Mihdhar on the government’s terrorist watchlist, TIPOFF, did not prevent them from flying because the FAA’s own fly list was totally independent of TIPOFF and the FAA did not have these names on its list.

In the staff’s reconstruction of this event, there are numerous instances where pieces of the puzzle were gathered by different agencies but not shared; that is, it was not handed off or transmitted to other agencies. Information and requests were not given to the NSA, the State Department, or the FBI. Similarly, information was not in (i.e., it had not been moved into) the CIA database or the FAA no-fly list.

Despite the pieces of information residing in various locations from late 1999 to September 11, 2001, the Intelligence Community lost track of Nawaf al Hazmi and Khalid al Mihdhar. In January 2000, they entered the United States. On September 11, 2001, they hijacked an airplane, and with two other hijackers, crashed it into the Pentagon.
This construction of events by the Commission staff was dominated by instances where interagency sharing and coordination did not occur; that is, agencies did not move information from one place to the next as one would expect, according to the defined process of intelligence production. In the end, the Commission staff had reconstructed an account of devastation caused by intelligence failures, a failure to move national security information along.

In this account, as well as other similar accounts in the 9/11 Public Hearing Transcripts, the constructs, coordination and sharing of information referred to the transmission of information from one place to another. This construction of information as a "‘thing,’ as an inert entity to disseminate," is reminiscent of "several decades of information theory that treated information as ‘bits’” that could be moved, tracked, passed back and forth and managed (Wheatley, 1994, pp. 101-102), and, in this sense, coordinated and shared.

**Access to Information**

Who did, and did not, have access to intelligence was a topic of various testimonies during the 9/11 Public Hearings. The following is presented to reflect the ways in which access to information surfaced as a dominant theme in the construction of pre-9/11 intelligence failures in the 9/11 Public Hearing Transcripts.

In the summer of 2001, an FBI agent and a CIA agent detailed to the FBI put the pieces together and figured out that two terrorists, Nawaf al Hazmi and Khalid al Mihdhar, were in the country and were “clearly here to kill Americans” (Baker, 6.38). Baker, former General Counsel, National Security Agency, recounted the events:

The FBI agent who discovered this . . . made it his mission to try to find these guys. . . .

When he asked for the authority to get the assistance of [the] law enforcement [side of the FBI] . . . , he was told by FBI headquarters, not on your life. You cannot capitalize, cannot do that because there’s a wall
between law enforcement and intelligence.

And [the response of the FBI agent] was to say, the American people will not understand this, someone is going to die because of this. (Baker, 6.39-40)

In addition to not having access to FBI law enforcement information and personnel, the FBI agent did not have access to “a lot of government information” that would have assisted him with tracking down the two terrorists. After seeking and acquiring authorizations to access the government information that could be available to him, he encountered a second access issue. He did not have computer access to the records that he had acquired the legal authority to review (Baker, 6.39).

Two terrorists were living openly in San Diego. They had California IDs, were making purchases and engaging in financial transactions, signing rental agreements in their own names, and booking flights on the plane that they would ultimately crash into the Pentagon. The FBI agent who was pursuing the trail of the terrorists had access to databases for arrests and certain automobile registrations, but these two terrorists had not registered any vehicles and had not been arrested. Because the agent did not have access to other information, it took him nearly two weeks to figure out and check out the hotel address one of them had put on his visa when he entered the country. Baker concludes:

If [the FBI agent] could have been able to find those two guys and then check the links that they had to many of the other terrorists—there were direct shared addresses as I remember, links to the people who flew into the south tower and the north tower. We had a chance to stop this. The one chance that I can see in all of the errors that were made where we really could have prevented this. (Baker, 6.39)

While Baker called it a failure of tools and rules, in the end he had constructed a tale of the agent's inability to access the people who may have had knowledge and the
databases that may have had relevant information. Had this information been pursued, according to Commissioner Ben-Veniste, we certainly could have found the two individuals (6.47).

A number of post-9/11 accounts of pre-9/11 intelligence failures centered on whether the law enforcement community had too much or too little access to information. For the most part, these discussions occurred in the context of the debate between privacy and civil liberties interests. On December 8, 2003, the 9/11 Commission and witnesses examined legal authorities relating to intelligence collection and the law enforcement community’s access to information. Areas scrutinized by the Commission included: the ease with which a field agent, with approval from her supervisor, could issue a National Security Letter authorizing access to any individual’s telephone records; whether the FBI should be able to issue administrative subpoenas when conducting investigations relating to terrorism; support for a national identification card; the Wiretap Act of 1968; the Foreign Intelligence Surveillance Act (FISA); the Federal Privacy Act of 1974; the Posse Comitatus Act; and the Patriot Act (Baker, Ben-Veniste, Gorelick, Gorton, Kean, Miller, Roemer, Rotenberg, Schulhofer, Thompson, 6.2-61).

This section is not intended to review the security/privacy debate but to underscore the saliency of the construct access to information for the Commissioners and witnesses examining the why and how of September 11. The question for the participants in the 9/11 Public Hearings is, Who should and should not have access to national security information? This issue is control, and its saliency reflects common practices for most 21st century organizations where, as a matter of course, “rigid chains of command keep people from talking to anyone outside their departments . . . and protocols define who can be consulted, advised, or criticized” (Wheatley, 1994, p. 17).
A dominant theme in the 9/11 Public Hearing Transcripts was the failure of the Intelligence Community to prevent the terrorist attacks on September 11. Descriptions of these failures included the one-way street of information from Federal agencies, particularly the FBI, to state and local authorities as well as a lack of coordination, cooperation, relating, and sharing of information among the various agencies of the Federal government. A central explanation for these failures was "the dominance of the law-enforcement and prosecutorial approach to terrorist issues" (Lehman, 1.1.106). The following is a synthesis of these testimonies.

The collection, analysis, and dissemination of intelligence in the United States has been divided between the FBI and the CIA since 1947. The FBI produced domestic intelligence for prosecution and law enforcement, and the CIA produced strategic foreign intelligence for national security policy and decision making. The consequence was a lack of sharing of information between the FBI’s tracking of radicals at home and the CIA’s tracking of radicals abroad (Byman, 1.1.241). This "gap," exacerbated by minimal effort "to marry up . . . privileged information," left only the FBI holding some information and the CIA with other information (Byman, 1.1.241). As a result, for example, indications that airlines might be used by al Qaeda hijackers for "destructive purposes or cataclysmic terrorism," known to the portion of the intelligence community that dealt with foreign intelligence, was not available for domestic use (Cleland, 2.1.109).

Within the FBI, the sharing of information was impeded by the central mission of the FBI. The FBI was primarily a law enforcement agency that focused on prosecuting cases (Byman, 1.1.243). Agents were responsible for investigating and bringing terrorists to justice. This involved capturing them and making a case that would result in conviction and imprisonment (Lehman, 1.1.268). When the FBI is trying to make a case, prosecution superseded the sharing of information:
[When] the FBI . . . provides information for the Department of Justice, their indictments come down. Suddenly all the information goes into the black hole. It can’t be shared, it is grand jury information, it is law enforcement information, but it is being used in the adjudication of criminal cases and, therefore, doesn’t get disseminated. (Fielding, 1.2.189)

As a result, evidence that a national security strategist within the FBI or CIA might think is very important was treated as unimportant by someone who wanted to build a case. An FBI agent was always, and only, thinking about whether the evidence was admissible in a courtroom (Sofaer, 1.1.270). This is a second way in which the prosecutorial approach to terrorism fostered a lack of intelligence sharing in the intelligence community.

September 11, 2001, according to all accounts in the Public Hearing Transcripts, was a massive failure of the U.S. government, and problems associated with the intelligence function contributed to this failure. A dominant accounting for this failure by the 9/11 Commissioners and witnesses was the law enforcement approach to terrorism that created two barriers, the divide between foreign and domestic intelligence and the divide between law enforcement and strategic intelligence (Steinberg, 4.42). This approach, according to the witnesses, fostered a lack of sharing of information between intelligence agencies and within the FBI.

The ineffectiveness of a law enforcement/prosecutorial approach to fighting terrorism, described by witnesses in the 9/11 Public Hearings, is characteristic of the structures of many modern organizations, and the problems created by these structures:

The difficulty of achieving effective responses to changing circumstances is often further aggravated by the high degree of specialization in different functional areas within the organization. . . . Interdepartmental communications and coordination are often poor, and people often have a
myopic view of what is occurring, there being no overall grasp of the situation facing the enterprise as a whole. As a result the actions encouraged by one element of the organization often entail negative consequences for others, so that one element ends up working against the interests of another. (Morgan, 1997, p. 29)

The challenge, according to Commissioner Lehman, is to “come up with procedures to insure that there is full sharing among all the offices, . . . even at the expense of perhaps weakening the evidentiary sanctity of a prosecution” (1.1.107). This challenge is not to be minimized. The highly functional silos that dominate our current way of thinking about organizational structure, communication, efficiency and effectiveness have their origins in 17th century Newtonian science and have been deeply rooted in management practices since the Industrial Revolution (Wheatley, 1994, p. 27).

Summary and Discussion

The constructs information flow, actionable intelligence, sharing and coordination of information, access to information, and a law enforcement/prosecutorial approach to fighting terrorism dominated the accounts of pre-9/11 intelligence failures in the 9/11 Public Hearings. In the terms of the ESR model (Weick et al., 2005) presented in Chapter Two, constructs dominate as a result of redundant and consistent use of institutional frameworks to make sense of an experience:

Explicit efforts at sensemaking tend to occur when the current state of the world is perceived to be different from the expected state of the world . . . . To make sense of the disruption, . . . “reasons” are pulled from frameworks such as institutional constraints, organizational premises, plans, expectations, acceptable justifications, and traditions inherited from predecessors. (Weick, et al., 2005, p. 409)
In this section, the transmission view of communication is presented as an institutional premise that significantly in-formed the dominant accounts of pre-9/11 intelligence in the Public Hearing Transcripts.

In testimonies on flow of information, the focus was on the dissemination of information by the Intelligence Community to its consumers. In debates over access to various kinds of information, the focus was on information that was or was not made available to various individuals and agencies within the Intelligence Community. In accounts of sharing and coordination of information, the focus was on the hand off of information within the Intelligence Community. In discussions on actionable intelligence, the focus was on the specificity of information that was handed off. The dominant explanation for these failures was the dominance of the law enforcement and prosecutorial approach to terrorist issues. With each of the constructs, the focus was on whether information was moved through the intelligence production process.

Fundamentally, each of the constructs assumed a flow of information from a source in the Intelligence Community to a receiver or consumer of national security intelligence. Peeling away the language that marks the differences among these constructs, we find resounding similarities regarding the sense that was made of the pre-9/11 intelligence failures. Each can be understood in terms of what was or was not sent, imparted, transmitted, transferred, passed, conveyed, given to others, or "otherwise gotten from person to person" (Axley, 1984, p. 430). In the language of the transcripts, the underpinning construct is what was and was not disseminated.

Portrayed as a linear single-tracked process by which information is acquired and converted into a product for consumers of information, the intelligence production process constructed by the 9/11 Public Hearing participants reflects the transmission model of communication, the dominant view of communication in modern Western society. During the 19th century, the movement of information and
the movement of goods and people were seen as essentially identical processes, and both were described as communication (Carey, 1989, p. 15). This transmission view of communication has dominated American thought and culture, and possibly all industrial cultures, since the 1920s (Carey, 1989, p. 23) and continues to be the most common view of communication (Eisenberg & Goodall, 1993, p. 22):

Our basic orientation to communication remains grounded, at the deepest roots of our thinking, in the idea of transmission: communication is a process whereby messages are transmitted and distributed in space for the control of distance and people. (Carey, 1989, p. 15)

When communication is viewed as transmission, it is constructed as a process and technology that spread, transmit, and disseminate knowledge, ideas, and information, with the goal of controlling space and people (Carey, 1989, p. 17). In this view, communication has been called “a metaphorical pipeline through which information is transferred from one person to another,” to accomplish their goals and objectives (Axley, 1984, p. 429). This metaphor figuratively depicts communication as a conduit where:

(1) language transfers thoughts and feelings from person to person; (2) speakers and writers insert thoughts and feelings in words; (3) words contain the thoughts and feelings; and (4) listeners or readers extract the thoughts and feelings from the words. (Axley, p. 429)

A communication model that represents the transmission view of communication is David Berlo’s SMCR model (1960): Communication occurs when a sender (S) transmits a message (M) through a channel (C) to a receiver (R) (Berlo, 1960, pp. 30-38). This transmission view of communication continues to dominate dictionary definitions of communication. Accounts of individual and collective behaviors, informed by this model of communication, organize experience so that:
1. Meaning is treated as a commodity to transfer from one place to another. Communication involves the physical transfer of thought, emotion, meaning, etc. from one place to another (Axley, 1984, p. 429; Wheatley, 1994, p. 101).

2. Communication is presented as a uni-directional process, or at best, a sequential process (Eisenberg & Goodall, 1993, p. 23).

3. The message receiver is portrayed as passive and uninvolved (Eisenberg & Goodall, 1993, pp. 23-24). Once the sender finds the right words to accomplish the transfer of thought, emotion, meaning, etc., then the fidelity becomes guaranteed, even routine. All the receiver or listener needs to do is “unpack the thoughts from the words” (Axley, 1984, p. 433).

4. Accurate, perfect information is regarded as a tool for accomplishing goals (Berlo, 1960, p. 40; Eisenberg & Goodall, 1993, p. 22).

5. Success is defined in terms of message distribution, or the passing of ideas or meaning from one person to another. To achieve desired results, the message must be distributed (Axley, 1984, p. 433; Carey, 1989, p. 15).

The intelligence production process constructed by the 9/11 Public Hearing participants resonates with the conduit or transmission model of communication:

1. Intelligence is constructed as a product and the U.S. Intelligence Community exists “to provide product” (Lehman, 2.2.31) precisely to the users who are tasked with defending the country. Analysts collect data to develop products for consumers.

2. Finished intelligence (i.e., actionable intelligence) is solid, specific, credible. The finished product, in contrast to raw intelligence data, is used as the basis for action, national policy development, and decision making.

3. Action is causally or quasi-casually affected by the receipt or non-receipt of intelligence. For example, witnesses testified they could not prepare for
terrorist attacks to the American homeland in 2001 because they had not received actionable intelligence.

4. Intelligence production is a one-way street of information and consumers of information are passive recipients of information. For example, despite the “great deal of information that [came] in, sometimes 300 messages in a day,” the FAA administrator never asked “for additional assessments” from the Intelligence Community (Fielding & Garvey, 2.1.106-107).

Authorized by the National Security Act of 1947, dozens of agencies and departments were formally charged with performing the intelligence activities (i.e., collecting, analyzing, and disseminating information) that are necessary for the conduct of foreign relations and national security of the United States. These agencies, linked by their charge, have come to be known as the Intelligence Community. With this legislation, an official definition of what is and is not intelligence was clearly demarcated: Intelligence is the product of a process (collection, analysis, and dissemination of information) performed by the Intelligence Community for officials who are responsible for national security.

With these definitions, we see an invisible hand shaping the accounts of the Commissioners and witnesses in the 9/11 Public Hearings. In their review of pre-9/11 intelligence failures, the participants turn their attention to the intelligence production processes that have been charged to the Intelligence Community. Using “unquestioned constructs” (Schutz, 1967; see also Axley, 1984, p. 428) to apprehend and organize witness testimony, the Commissioners embarked on an analysis within a taken-for-granted framework, the transmission model of communication, that narratively reduced the kinds of explanations and solutions that were available to them.

According to the transmission view of communication, success is defined in terms of message distribution. Similarly, the success of the Intelligence Community
is defined in terms of its dissemination of national security information to consumers. Axley (1984) reminded us that little doubt remains about the capacity of metaphors (such as the conduit metaphor) to create perspective, to structure points of view (p. 129). In this vein, it not unexpected that the dominant accounts of pre-9/11 intelligence failures are accounts of failures in dissemination. To wit, the consumers of intelligence testified that they depended on information from the Intelligence Community and that they did not receive it.

As we discuss the dominant constructs of pre-9/11 intelligence failures in the Public Hearing Transcripts, it is important to remember that experience is the “moment of vision” before intellectualization takes place (Weick, 1995, p. 24). For example, many of us can vividly recall an instance in a young child’s life (e.g., falling off a bed, or stumbling and falling onto a rough sidewalk) when the wide-eyed child looked for others’ reactions before laughing, wailing, or merely getting up and brushing himself off before resuming play. This example exemplifies not only the moment of experience before intellectualization or meaning takes place, but also the multiplicity of meanings that could be attached to a single instance of experience. Additionally, it exemplifies the partial nature of the experience that is captured in the interpretation that is constructed (e.g., the fallen child may respond differently to the parents’ but not a stranger’s reaction).

The intellectualization of the events leading to September 11, 2001, includes the labels, e.g., lack of coordination, that were being employed in the 9/11 Public Hearings and discussed in this paper. In an effort to understand the complexity of 9/11, we (i.e., first the Commission and witnesses, then the writer of this paper) are singling out events and organizing them into plausible explanations (Weick, 1995, pp. 55-61); that is, we are intellectualizing the experience of 9/11 with the constructs we use to make sense of our experiences. The products of our efforts will not mirror the events leading to 9/11, but are a retrospective accounting of the
experience based on the constructs we have available to make sense of the world. As a result of the complexity of experience and the partial, partisan interpretations we apply to experience, the constructs that we create to explain the world are not as clear cut and mutually exclusive as we might like them to be. The event is always more complex than the stories we can tell about it, and the stories reflect the individual and collective theories we use to make sense of the world. This chapter presented a detailed discussion of the construction of intelligence failures documented in the 9/11 Public Hearing Transcripts. Chapter Four provides a detailed analysis of the dominant accounts of accountability in these transcripts. By looking at the constructions that were front stage in the 9/11 Public Hearings, we are creating opportunities to also consider alternative constructions that are not currently informing how America prepares its defense against this newly-acknowledged enemy. One of these, an autopoietic open systems perspective, will be explored in Chapter Five.
CHAPTER FOUR

CONSTRUCTIONS OF ACCOUNTABILITY IN THE 9/11 PUBLIC HEARINGS

Throughout the 9/11 Public Hearings, Commissioners and witnesses declared their goal to assign accountability for the terrorist attacks on September 11, 2001. For the most part, the participants in the 9/11 Public Hearings stated their intentions not to “point fingers” (Kean, 1.1.11), participate in a “blame game” (Ben-Veniste, 1.1.30), or conduct a “witch hunt” directed at one particular agency or particular individuals (McCain, 2.1.7), as there was nothing to be gained by finding, placing, asserting, or assigning blame or pointing fingers (Corzine, 2.1.63; Waizer, 1.1.116). According to the testimonies of many of the participants in the 9/11 Public Hearings, it wasn’t about blame but about accountability (Corzine, 2.1.63): Americans needed and wanted to know how their government may have failed them (Lautenberg, 2.1.80). Commissioner Roemer stated: “As our Declaration of Independence proclaims, those holding power, ‘deriving their powers from the consent of the governed,’ should be accountable to their citizens” (1.1.49-50). Holding government officials and employees accountable was what the American people needed, wanted, and demanded (Fetchet, 1.1.187; Lautenberg, 2.1.80; Lieberman, 2.1.16), and that was what the Commission set out to do (Roemer, 1.1.49).

As the hearings proceeded and the events leading to 9/11 were reconstructed, the search for accountability prompted accounts of blame and exoneration. In the end, we find that the initial search for accountability for 9/11 was subsequently enacted as stories of:

1. Exoneration (i.e., I fulfilled my responsibilities).
2. Finger pointing and blame (i.e., the deflection of accountability for 9/11 to others who did not fulfill their responsibilities).

This chapter has four sections. The first section presents the constructions of blame and exoneration, the dominant responses by participants in the 9/11 Public
Hearings to the often unstated, but ever present question: Who was accountable for September 11, 2001? As the construct oversight is a core element of accountability in government institutions (Kearns, 1998), the constructions of “oversight” by the 9/11 Public Hearing Commission and witnesses are also presented. Excerpts from witnesses’ accounts of pre-9/11 intelligence failures, the dominant focus of the 9/11 Hearings, are used to illustrate the constructions of blame, self exoneration, and oversight in the Public Hearing Transcripts.

Whereas the first section of this chapter focuses on the construction of pre-9/11 events, the second section focuses on various post-9/11 recommendations for securing America against future terrorist attacks. These recommendations provide the greatest opportunity to review the meaning of accountability in the Public Hearing Transcripts. Because self exoneration and blaming dominated witnesses’ accounts of the events leading to September 11, these accounts provide very little insight into witnesses’ views of accountability. Additionally, there was no agenda item on the Public Hearing dockets entitled accountability. Therefore, various recommendations for post-9/11 accountability are compiled to provide insight into what the Commission had in mind when they demanded accountability for officials with critical national security responsibilities (Lieberman, 2.1.16). This compilation is presented in the second section of this chapter.

In the 9/11 proceedings, witnesses and Commissioners used the words responsibility and accountability interchangeably. I attempt to distinguish between these in the third section of this chapter. The dominant themes of accountability presented in the first three sections of this chapter are summarized and discussed in the final section of the chapter.

Who Was Accountable for September 11, 2001?

Whatever the witnesses and Commissioners said about not attributing blame, the pointing of fingers was pervasive and far reaching during the Public Hearings,
ranging from the “dysfunctional society in the Arab Muslim countries” (Push, 1.1.222) and “the murderous group of thugs that hijacked and crashed those planes” (Shelby, 2.1.22) to our Western sense of invulnerability and the complacency in which we all shared (Cleland, 1.1.61). Those who were targeted in the 9/11 Public Hearing transcripts as being culpable for September 11 included:

1. The United States government (Thompson, 1.1.55)—that is, U.S. policymakers (Gasiorowski, 3.59), senior political decision makers (Lehman, 4.38), Congress (Cleland, 1.1.58; McCain, 2.1.10; Roemer, 6.21; Shays, 2.1.78; Wermuth, 1.2.142), the Clinton and Bush administrations (Schulhofer, 6.20; Shays, 2.1.78), Presidents Clinton and Bush (Kerrey, 7.1.55), elected officials with oversight responsibilities (Fetchet, 1.1.183)

2. The intelligence community (Cleland, 1.1.57; Fetchet, 1.1.182; Gunaratna, 3.28; Kleinberg, 1.1.192; Lieberman, 2.1.15)

3. Other government agencies (Barr, 6.104)—that is, border control, aviation security (Pelosi, 2.1.5; Shelby, 2.1.26), the State Department (Fine, 1.2.40)

4. The airline industry (Push, 1.1.216), airport security (Bloomberg, 1.1.72), aviation security program (Mead, 2.1.104), the FAA (Mead, 2.1.110)

5. The CIA (Lehman, 4.73-74) and FBI (MacGaffin, 6.93)

6. The many bureaucratic steps between the development of a counterterrorism budget within the FBI, or a CTC budget within the CIA, and a final administration budget request from the Office of Management and Budget (Shelby, 2.1.23)

7. The whole political campaign contribution system (Push, 1.1.216)

8. T-U-R-F (Harman, 2.1.46)

9. Policy failures (Ranstorp, 1.1.257)

10. Our systems, our bureaucracies, and our inflexibility toward change (Sincock,
The media (Shays, 2.1.78)

Human, budgetary, and organizational deficits (Schulhofer, 6.6)

In testimonies provided by those who were targets of blame for the events leading to 9/11, there were recurring accounts of self exoneration and deflection of accountability, based on the fact that they were fulfilling what they understood to be their responsibilities. The following testimony provided by Ms. Garvey, Administrator of the FAA from August of 1997 until August 2002, exemplifies this stance:

On September 10th, 2001, by statute, civil aviation security in the United States was a shared responsibility. Air carriers had the primary responsibility for screening passengers and baggage, and for applying security measures to everything that went on their planes. Airports were responsible for keeping a secure ground environment and for providing law enforcement support.

Government’s role, that is the FAA’s role, was regulatory. By rulemaking, the FAA set the security standards for U.S. airports, for U.S airlines worldwide, and for foreign air carriers flying in the United States. The FAA also ensured compliance with those standards.

On September 10th, aviation security was responsive to the assessed threat based on information from intelligence and law enforcement agencies.

Within the FAA, the Office of Civil Aviation Security was the primary office responsible for security. The FAA, as others may point out, was not an intelligence gathering organization. Threat analysis was based on raw and finished intelligence products supplied to the FAA from these communities.

And on September 10th, based on intelligence reporting, we saw explosive devices on aircraft as the most dangerous threat.
We were also concerned about what we now think of as traditional hijacking. (Garvey, 2.1.87-90)

According to Garvey, the FAA was exonerated for the events leading to 9/11. By being responsive to threats identified by the Intelligence Community, they were fulfilling their understanding of their responsibilities. By not providing solid intelligence on the attacks that would occur on 9/11, the Intelligence Community was culpable (Garvey, 2.1.88). Similar accounts of exoneration and deflection of accountability were relayed throughout the 9/11 Public Hearings.

The FAA, NORAD, and Consular Affairs were among those who pointed to the Intelligence Community as the cause of their failure to prepare for, mitigate, or prevent the attacks on 9/11. As a result, there was considerable discussion during the Public Hearings about the Community’s failures, responsibilities, and accountability. These discussions, however, also quickly prompted stories with themes of self exoneration and blame. For example, according to Senator Shelby, the Intelligence Community’s performance prior to September 11 was not the fault of Congress:

Defenders of the intelligence community’s performance during the Clinton administration and prior to September 11th, insinuated that it was really the fault of Congress that the intelligence community failed to detect and deter the attacks on the World Trade Center and the Pentagon . . . .

Unfortunately, a surprising number of my colleagues in Congress seemed to give credence to the suggestion that September 11th was in some way our fault. I have at times been a harsh and I believe a constructive critic of the intelligence community. I have never asserted, however, that the attacks of September the 11th were anyone’s fault other than the murderous group of thugs that hijacked and crashed those planes into the symbols of American military and economic power. We should all keep that in mind as
we search for the truth here. (Shelby, 2.1.22)

Congress, according to Shelby, had emphasized counter-terrorism and counter-intelligence as fundamental policy priorities for years. As part of his testimony, Shelby provided an overview of the "aggressive steps" taken by the Senate Intelligence Committee to address "what were becoming very clear indications of fundamental weaknesses in our ability to attack the terrorist target" (Shelby, 2.1.23). These steps included:

1. Identifying counter-terrorism and counter-intelligence as two of the five highest priorities of the intelligence community.

2. Listing terrorism, and the ability of the U.S. to combat it, as one of the Senate Intelligence Committee’s highest priorities in every one of its bills, since 1996.

3. Revealing, in 1998, that the FBI was failing to address the significant technological challenges that were degrading its ability to track terrorists.

4. Highlighting serious FBI-wide deficiencies in information technology and modernization, and the absence of a plan to address them.

5. Recognizing a critical shortage of language skills, including Arabic and Farsi, in the FBI and directing the FBI to review its language recruiting efforts.

6. Working to remove restrictions that unnecessarily hindered the collection of terrorism information.

7. Detailing serious problems in information sharing between intelligence agencies and law enforcement organizations.

8. Registering its concern that there was no comprehensive intelligence community estimate on present and emerging terrorist threats and directing the Director of Central Intelligence to produce such an estimate.

9. Working to effect structural and organizational changes within the community.
10. Creating three Senate-confirmable management positions to address community-wide problems with coordination on collection, analysis, and production issues.

11. Engaging in efforts to increase funding for counterterrorism.

These, according to Shelby, were just “a few examples of congressional actions” (2.1.24). Congress, according to Shelby’s understanding of its responsibilities, was doing what it could and should be doing—that is, encouraging “these things” (2.1.25). “Ultimately,” according to Shelby, “the intelligence community is led and run by the Director of Central Intelligence (DCI), who deserves most of the credit or blame for the decisions he makes and the results that he produces” (Shelby, 2.1.25).

In his testimony, Shelby identified pre-9/11 decisions made by the DCI that reflected a “complete disregard for congressional direction” (2.1.25). Examples included:

1. In 2001, prior to September 11, the CIA reported that it would not spend millions of its counterterrorism funds, despite the fact that Congress had fully funded the administration’s request for a Counter-terrorism Center (CTC).

2. The DCI resisted efforts by the Senate Select Committee on Intelligence to remove restrictions that unnecessarily hindered the collection of terrorism information.

3. The DCI, at the time of the Public Hearings in 2001, had not yet submitted names to the Senate Select Committee on Intelligence for Senate-confirmable high visibility management staff positions, which were created in 1996 to “help . . . manage the intelligence community” (Shelby, 2.1.24).

4. The DCI, at the time of the Public Hearings, had not complied with the 1997 request of the Senate Select Intelligence Committee to produce a comprehensive intelligence community estimate on present and emerging terrorist threats.

Shelby’s testimony serves as an additional example of the recurring themes of self
exoneration and the deflection of accountability that dominated the responses to the question most frequently posed during the 9/11 Public Hearing, Who was responsible for the pre-9/11 intelligence failures?

**Oversight**

It is not surprising that *oversight* surfaced as a dominant construct during the 9/11 Public Hearings. Kearns (1998), reviewing basic definitions of accountability, identified *oversight* as a core element of accountability in government institutions; that is, at "the heart of any accountability system" is "a higher authority vested with the power of oversight" (p. 144). Recognizing the prominent role that oversight plays in public sector accountability, this section explores definitions and issues that inform our understanding of the constructions of accountability in the 9/11 Public Hearing Transcripts.

Definitions of *oversight* include watchful care, management, supervision, and management by overseeing the performance or operation of a person or group. Similarly, synonyms for oversight include supervision, supervising, and superintendence. Definitions of legislative oversight include legislative control of bureaucracy, legislative supervision and monitoring of the executive, the intention to influence the performance of administration, formal and informal efforts to bring agencies into compliance with congressional demands, monitoring the fidelity of elected leaders and their subordinates, and maintaining accountability (Johnson, 1985, p. 550; Ogul, 1976; Ogul & Rockman, 1990, pp. 5, 6, 21).

The purpose of oversight is to ensure that those to whom authority is delegated remain responsive (Ogul & Rockman, 1990, p. 7). The question is, to whom or what should governmental agencies be responsive – Professional norms? Democratic values? Internal constituencies? Public interest constituencies? Committee preferences? Congress as a whole? Multiple principals, for example, the President, the courts, interest groups, and the agencies themselves (Ogul &
Rockman, 1990, pp. 7–12)?

Acknowledging that they are reiterating what many have pointed out, Ogul and Rockman (1990) described oversight of U.S. executive agencies as “an unusually political” undertaking, one that is especially responsive to well-articulated political demands and “possibly subject to excesses of parochial influences” (p. 21). Ogul and Rockman concluded, “The United States political system fails to resolve the issues of who is boss” (p. 12). In fact, it was impossible for Ogul and Rockman to imagine the U.S. system of government being otherwise. In a system that emphasizes the independence of institutions and the relative autonomy of congressional committees and sub-committees, it was unimaginable that the multiplicity of efforts to influence and control agencies could be easily reconciled into a feasible coordinating mechanism for oversight (pp. 21-22).

The U.S. intelligence community—that is, executive agencies such as the CIA and FBI—is not exempt from the diffuse nature of oversight. Inspectors general, oversight boards within the executive branch, Congress, courts, and even the media have assumed responsibility for monitoring intelligence activities (Johnson, 1985). Pre-eminent among the overseers of the intelligence communities have been Congress with its congressional committees (p. 550) and the President:

In theory, the director of central intelligence, as the president’s principal intelligence adviser, presides over the allocation of resources of this entire system. Just so, Congress with the constitutional power of the purse, theoretically oversees the policies, organization, and efficiency of this vast army of intelligence workers. (Ransom, 1975, p. 158)

However, the reality has been, and may continue to be, considerably different. According to Ransom (1975), neither Congress nor the director of central intelligence appeared to provide meaningful oversight of the intelligence community.

A tug of war for oversight of, and accountability for, the intelligence agencies
was at the heart of an unprecedented comprehensive investigation of the intelligence community in the 70s (Ransom, 1975, p. 160). In 1976 Congress established the Senate Select Committee on Intelligence (SSCI); in 1977 the House Permanent Select Committee on Intelligence (HPSCI) was established. With the Intelligence and Intelligence-Related Activities Authorization Act for Fiscal Year 1979, the Central Intelligence Agency and other intelligence agencies became subject to the congressional authorization and appropriation procedures imposed on other executive agencies (Bruemmer, 1992, p. 874). Authorities delegated to the SSCI and HPSCI included supervising intelligence policy, monitoring the analysis and production of intelligence, developing legislation that guides and regulates the operations of the intelligence community, authorizing the annual budgets of the Community, and overseeing and advising the President and the Director Central Intelligence on the conduct of clandestine activities (Bruemmer, 1992, pp. 874, 878; Flanagan, 1985, p. 62; Johnson, 1985, p. 550).

However, in 1985, Johnson noted that full accountability for enforcing the accountability of intelligence agencies remained elusive, as Congress could not agree on how much accountability it should require and how they could ensure it (p. 549). In 1985, Flanagan also reported that all was not well with the Intelligence Community. However, he acknowledged that intelligence analysis and collection activities were generally improving, and believed this course could be maintained if effective management by the DCI were coupled with “judicious guidance and oversight by the President and Congress” (p. 95).

In 1987, Goodman noted the long standing problems stemming from alarming defects in the executive and congressional oversight of the Intelligence Community (p. 123). For example, existing laws, executive orders, and regulations did not outline the process by which Congress should conduct oversight of the U.S. intelligence operations (p. 124). Goodman called for a “new charter” to address the
problems that had repeatedly led to intelligence failures or abuses (Goodman, 1984-85, pp. 162–169; Goodman, 1987, p. 135). This charter was to delineate the process for Congress to exercise operational and fiscal oversight of U.S. intelligence (p.135).

Berkowitz (1996), referencing at least six official and unofficial studies within the previous three years on how to improve U.S. intelligence, asserted, “If we have not figured out how to fix the intelligence community, it is not for lack of trying” (p. 35). The approaches to reform summarized by Berkowitz in 1996 included various efforts to ensure the intelligence community obeyed the law and complied with oversight requirements. The focus was on efficiency and responsiveness (p. 37) by clarifying roles, missions, and priorities in the intelligence community. Efficiency studies, streamlining and better prioritization and planning implied that there was nothing wrong with the intelligence system that better management (i.e., oversight) could not fix (p. 40).

In 1975, Ransom had written:

Neither Congress nor the director of central intelligence appears to have meaningful control. Therefore, it is difficult to focus policy or managerial responsibility or accountability on any particular place within the executive or legislative branches. In the absence of such accountability, “oversight” as currently exercised is best defined in the dictionary’s other meaning of the word—“overlooking” or the absence of careful attention. (pp. 158-159)

Ransom’s observation in 1975 reverberates in numerous comments, questions, and recommendations provided by witnesses and Commissioners during the 9/11 Public Hearings held in 2002 and 2003:

1. Comments, e.g., “I never really understood who was in charge” (Cleland, 2.1.18); “I very much endorse Senator Graham’s views that congressional oversight is an area that screams for your attention” (Goss, 2.1.35); and “We
must . . . provide meaningful oversight of the intelligence community” (Goss, 2.1.32).

2. Questions, for example, “More than 12 different agencies under six different cabinet officers were part of the intelligence community. But who was accountable (Cleland, 4.30)? “Short of the President, who do we look to for these things” (Steinberg, 4.48)?

3. Recommendations, for example, “There’s got to be somebody in charge of the intelligence community” (Cleland, 2.1.55), and “There has to be continual oversight” (McCarthy, 4.74).

Oversight: The Intelligence Function

This section focuses on the dominant constructions of oversight that appear in the 9/11 Public Hearing Transcripts. It begins with a description of the duties of the General Accounting Office (GAO), an independent, non-partisan investigative arm of Congress:

We make recommendations to the agencies who in turn are responsive to the U.S. Congress. . . .

It is for us to present the information to the policymakers, and from there, they can make them do it . . . .

We are a congressional agency and our mission is oversight, generally, of the executive agencies.

I don’t want to sound like [the agencies] don’t do anything, but generally the implementation [of GAO recommendations] is not the way we want it to be. Some of the recommendations that have been made . . . have been around for years. They were either not implemented or partially implemented. (Dillingham, 1.2, 104-105)

As early as 1975, it was noted that the potential of the GAO as an overseer of the intelligence community had not been realized (Ransom, 1975, p. 163). During cross
examination by the Commissioners, Dillingham added, “It has to be a congressional priority that is followed through” if a GAO recommendation is to be implemented (Dillingham, 1.2.104).

According to the GAO officer, the GAO can not get things done, but Congress can. Senator Shelby, however, presented a different perspective: Congress can encourage these things, and they should. And we have certainly tried, but the legislature merely conducts oversight. We do not and should not, I believe, direct the operational activities of our intelligence agencies . . . . We can legislate, but there is little we can do to compel compliance. . . .

While Congress oversees the intelligence activities of the U. S., ultimately, the intelligence community is led and run by the Director of Central Intelligence. (Shelby, 2.1.25)

The threats to the United States on the eve of 9/11 included growing threats from Iran, Iraq, and Korea; the military modernization in China; threats in regional areas (e.g., Bosnia and Africa); terrorism in all its dimensions (e.g., chemical, biological, and nuclear; refugee flow; and humanitarian disasters). When asked by a Senator at an Armed Services Committee meeting which were the most important threats, CIA Director George Tenet replied, “If any of those happens, I’m accountable, I can’t prioritize” (Gannon, 4.67).

On the one hand, the accountability for various threats was assumed by the Director of Central Intelligence (DCI); on the other hand, others testified at the 9/11 hearings that the DCI, or the people working for him, could not be held accountable for the events leading to 9/11 for a variety of reasons: The pre-9/11 Intelligence Community consisted of more than twelve different agencies reporting to six or more Cabinet officers; most of the resources belonged to the Department of Defense (DOD) and the committees that provided oversight of the DOD; and the DCI
controlled no more than 20 percent of the budget (Shelby, 2.1.46). Insufficient authority, lack of resources, and no “report card” (Kleinberg, 1.1.224) have mitigated the accountability of the DCI for the events leading to 9/11. This according to Kleinberg is why “congressional oversight becomes extremely important” (1.1.224). With this last statement, however, we have come full circle. According to various participants in the 9/11 hearings, the responsibility of Congress is to encourage but not direct and compel compliance; the intelligence community is run and lead by the DCI, but he can not be held accountable for the events leading to 9/11 because he did not have the authority and resources; because the DCI does not have the resources and authority, congressional oversight, post-9/11, is extremely important.

A higher authority vested with the power of oversight is a core element of basic definitions of accountability in the literature on public administration (Kearns, 1998, p. 144). On October 14, 2003, the dominant construction of institutional oversight in the Public Hearing Transcripts was captured in Gorelick’s assessment of the situation: “Right now we have a situation where there is no accountability for the entire government’s intelligence capacity, except in the person of the President of the United States and the National Security Advisor as his aide” (Gorelick, 4.14).

The testimony of the National Security Advisor at the 9/11 Public Hearing provides an additional opportunity to view various but similar constructions of oversight by the witnesses and Commissioners. On April 8, 2004, Dr. Condoleezza Rice, the assistant to the President for national security affairs, appeared before the Commission and outlined the strategy to eliminate al Qaeda that had been developed by the Bush administration over the spring and summer of 2001 and approved by the President’s senior national security officials on September 4. Excerpts from Dr. Rice’s statement to the Commission provide insight into her interpretation and enactment of oversight:
The strategy set as a goal the elimination of the al Qaeda network and threat and ordered the leadership of relevant U.S. departments and agencies to make the elimination of al Qaeda a high priority and to use all aspects of our national power – intelligence, financial, diplomatic and military—to meet that goal. And it gave Cabinet secretaries and department heads specific responsibilities. (Rice, 9.5)

The goal was set, and leadership was ordered to meet the goal. For example, the FBI was charged with determining the domestic threat. However, during his cross examination of Dr. Rice, Commissioner Roemer reported that the Commission had not found anybody who knew anything about a “tasking” of field offices, despite thousands of interviews and a review of millions of pieces of paper:

Mr. Roemer: The director . . . of the FBI during this threat period, Mr. Pickard . . . says he did not tell the field offices to do this. And we have talked to the special agents in charge. They don’t have any recollection of receiving a notice of threat. Nothing went down the chain to the FBI field offices on spiking of information, on knowledge of al Qaeda in the country, and still the FBI doesn’t do anything. Isn’t that some of the responsibility of the national security advisor?

Ms. (sic) Rice: The responsibility for the FBI to do what it was asked was the FBI’s responsibility. Now, I –

Mr. Roemer: You don’t think there’s any responsibility back to the advisor of the President?

Ms. (sic) Rice: I believe that the responsibility—again, the crisis management here was done by the CSG [Counterterrorism Security Group]. They tasked these things. If there was any reason to believe that I needed to do something . . . , I would have been expected to be asked to do it. We were not asked to do it. In fact, as I’ve mentioned to you –
Mr. Roemer: But don’t you ask somebody to do it? You’re not asking somebody to... do it. Why wouldn’t you initiate that (Rice & Roemer, 9.68)?

A question posed by Commissioner Gorelick during the 9/11 Public Hearing was, “How do you get the organization, the imagination, the leadership, the urgency if you haven’t invested someone with authority to move resources to where they need to go” (4.14)? This overview of the testimony on oversight of the executive offices, however, reveals that Congress, the GAO, the DCI, and the National Security Advisor are among those who have been vested with oversight authority for executive offices. In this light, the question that might be posed, based on the above discussion of oversight, is: How does someone (e.g., Congress, the GAO, the DCI, and the National Security Advisor) exercise oversight once they have been granted official authority to provide leadership?

This section has focused on looking backwards, i.e., the construction of oversight of, and accountability for, the events leading to September 11. The next section looks forward. In recommendations for building accountability into government, there are indirect, if not direct, references to what the 9/11 Commissioners and witnesses had in mind when they demanded accountability for those who have national security responsibilities.

Accountability: Constructions in the 9/11 Public Hearing Transcripts

The greatest opportunity to review the construction of accountability in the 9/11 Public Hearing Transcripts comes in the form of witnesses’ recommendations for building greater accountability into the government. These recommendations included:

1. Making individuals responsible for doing their jobs properly (Kleinberg, 1.1.224; Zelikow, 7.1.77), including following rules, procedures, and guidelines (Kean, 6.119; Steinberg, 4.36) and fulfilling their assigned
responsibilities (Yim, 5.84) with honesty and professionalism (Schulhofer, 6.26)

2. Providing resources, for example, sufficient time and agents (Schulhofer, 6.7, 11)

3. Giving them both responsibility and authority for budgets, resources and programmatic efforts (Gorelick, 4.26; Deutch, 4.19)

4. Establishing and reporting according to specific, tangible standards, goals and specific timetables (Brill, 1.2.123; Kleinberg, 1.1.224; Yim, 5.81)

5. Integrating annual performance and accountability plans of individuals and agencies and linking them to key national indicators (Yim, 5.84)

6. Holding individuals personally accountable for failing or faltering in their duties (Lieberman, 2.1.16)

7. Having consequences for abuses (Kean, 6.119) and poor performance, for example, firing and voting them out of office (Kleinberg, 1.1.224), fines (Schiavo, 2.2.87), court martials (Gorelick, 2.7.51)

Cumulatively, the composite of performance management techniques recommended by the participants in the 9/11 Public Hearings echoed definitions of accountability found in the current literature on political science and public administration (Kearns, 1998, p.143). For example, Kearns (1998), reviewing basic definitions of accountability relating to government institutions, identified:

three core elements that are at the heart of any accountability system: (a) a higher authority vested with the power of oversight, (b) an explicit reporting mechanism for conveying information to the higher authority, and (c) a measure or criterion used by the higher authority to assess compliance by subordinate institutions. (Kearns, 1998, p. 144)

Each of these core elements is identified or implied in the composite of performance management techniques recommended by participants in the 9/11 Public Hearings.
Similarly, the features of accountability advocated by the 9/11 Public Hearing participants resonate with Fenstermacher’s (1979, pp. 330-331) four conceptual features of accountability:

1. Accountability is a relational term. To say that A is accountable to B implies that A is held accountable and that B is holding A accountable.
2. The accountability holds between persons.
3. The relation holds with regard to some standard of performance.
4. The parties to an accountability relation are obligated to provide or receive information.

Summarized, “Accountability is a relation between persons, wherein person A is engaged in the performance of specific tasks, and is obligated to inform person B of the standard of performance that is attained in these tasks” (Fenstermacher, 1979, p. 331).

The literature on accountability distinguishes between basic or narrow definitions of accountability and broader definitions. The narrower definition of accountability refers to “answerability” for one’s actions or behaviors to a higher authority (Kearns, 1998, p. 144) and focuses on tangible outcomes (Kearns, 1998, p. 140). A broader definition in the literature on accountability in government institutions includes assessment of intangibles (Kearns, 1998, p. 144), for example, Schulhofer’s recommendation during the public hearings that honesty and professionalism be considered as criteria for assessing performance (6.26). This broader definition reaches beyond obeying instructions (Kearns, 1998, p. 144), to include managing diverse expectations within and outside the organization (Romzck & Dubnick, 1987, p. 228) and responsiveness to societal demands (Kearns, 1998, p. 144). According to Kearns (1998), broader definitions that include responsiveness to

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2 In the deflection of accountability for events leading to 9/11, participants in the 9/11 Public Hearings also blamed organizations, processes, and structures for the attacks on 9/11.
stakeholders and persons in positions of authority are better suited to public organizations whose mandates are to preserve the public trust and serve the public interest (p. 141).

When the testimonies on pre- and post-9/11 accountability are extracted from the 9/11 Public Hearing Transcripts and compiled, a construction of accountability emerges that is consistent with the scholarship and practices that dominate Western society. Used by practitioners and scholars, the construct often refers to the delegation of authority by "B" to "A," followed by the answerability of "B" to "A" for the performance of assigned tasks. Satisfactory performance is achieved by measuring up to the expectations of "A." At the core of this generally-used construction of accountability is the notion of fulfilling one’s responsibilities; this is the sense of accountability that also dominated the construction of accountability in the 9/11 Transcripts (e.g., representatives of FAA, Consular Services, and NORAD each testified they were fulfilling their responsibilities). Therefore, to understand this construction of accountability more fully, we must dig deeper into the construction of responsibility.

In “On Being Responsible,” Haydon (1978) focused on the “notion of responsibility” and the various senses we make of it. Two “senses” that are particularly relevant to the constructions of accountability by the 9/11 Public Hearing participants are liability-responsibility (p. 47) and virtue-responsibility (p. 46). Someone may be held responsible in the liability sense (and hence blamed or praised), when: (a) an agent has particular responsibilities as a function of occupying a distinct role and we refer to those as his responsibilities and (b) the agent’s action or omission of action is involved in the causation of an event for which he has the responsibility (p. 46). Haydon’s definition of liability-responsibility resonates with the construction of accountability by the 9/11 Public Hearing participants (e.g., assignment of responsibilities, evaluation of performance based on
a person’s performance of those responsibilities, and consequences).

This sense of responsibility/accountability, according to Haydon, is unitary and monolithic (p. 47); that is, judgments of responsibility and irresponsibility are made in relation to a person’s performance of particular roles (p. 51). It does not account for virtue-responsibility, a judgment that a person is responsible in the “undertaking” of a responsibility (p. 50). This sense of responsibility, virtue responsibility, according to Haydon (1987) can best be elucidated in terms of accountability:

We need not assume that the notion of responsibilities has sense only in a context of roles. I suggest that while the responsibilities constitutive of a role are paradigmatic for “role-responsibility”, ‘responsible’ can be used in the same sense without reference to a role (this use can, I think, be elucidated independently in terms of accountability). (Haydon, 1978, p. 50)

The narrower sense of responsibility/accountability restricts accountability to fulfilling delegated responsibilities; the broader definition of accountability is not tied to particular responsibilities, but extends to any agent in regards to any decision to act in one way or another (p. 52). The components of this broader notion of accountability, or virtue-responsibility, are:

Having regard for consequences. . . . it is required not merely that one act with regard for the consequences, but that one evaluate and weigh the consequences properly. The agent is expected to pay special attention to consequences involving harm and benefit to others, and to modify his conduct so as to promote benefit or at least minimize harm. . . . (Haydon, p. 52)

Being autonomous. . . .The autonomous [human], it would generally be agreed, forms his own judgments; it is often added that he forms them rationally; and sometimes that he also acts on them. The requirement in any case goes beyond . . . the notion of a conscientious . . . follower of some
conventional code. (pp. 52-53)

Using this broader sense of accountability, the accountable person has an appreciation of her situation as an agent in a social world and understands that she is expected to perform in a way that promotes benefit or at least minimizes harm. An example of this sense of accountability is taken from the 9/11 Public Hearing Transcripts.

On January 26, 2004, Jose Melendez-Perez, a twelfth-year immigration inspector, appeared before the 9/11 Commission to testify on his encounter with a Saudi male at the Orlando International Airport on August 4, 2001. Mr. Melendez-Perez opened his testimony (7.1.57) with two “things” he wanted the Commission to know. On the day in question, he was “just doing [his job],” and he was honored and proud that the work he did apparently prevented an alleged terrorist from participating in the September 11 attacks on America’s homeland (7.1.57). Second, he relied on his experience, training (7.1.57), and “a gut feeling that something wasn’t right” (7.1.69).

At approximately 17:35 hours on August 4, 2001, Mr. Melendez-Perez was assigned the case of a Saudi national who had arrived on Virgin Atlantic flight 15 from London Gatwick Airport. The excerpts from the cross-examination of Mr. Melendez-Perez by Commissioner Ben-Veniste provide insight into the Commissioners’ construction of a first class professional doing his job (Lehman, 7.1.72; see also Roemer, 7.1.69):

Mr. Ben-Veniste: Let me ask whether it is correct that at no point during the summer of 2001 did you receive any notification that there was a higher danger or threat level of potential terrorists coming into the United States? . . .

Mr. Melendez-Perez: Not that I recall, sir.

Mr. Ben-Veniste: And in looking back at this matter, had you received any
information as to whether this individual, Mr. Kahtani, had actually been
interviewed in connection with his visa application to obtain a visa to visit
the United States?

Mr. Melendez-Perez: That is negative, sir.

Mr. Ben-Veniste: And that is the case that our staff has found no
indication that Mr. Kahtani was physically interviewed by a consular officer.

Let me ask you this, as of August ’01, when this incident occurred, among the
INS inspectors in Orlando, was there a recognition, sir, that greater deference
would be given to a Saudi national than, say, a Mexican or a Jamaican? . . .

Mr. Melendez-Perez: Well, since I came in the service in 1992, the
[consensus] of the Saudi people was they have to be treated with more tact
for their nation. . . . basically, that feeling is communicated by the more
experienced inspectors.

Mr. Ben-Veniste: That if you hassled a Saudi citizen or that you took more
time up to the point even of permitting entry but you gave them more
attention that you might catch some kind of negative criticism?

Mr. Melendez-Perez: That is correct. Normally, as a matter of fact, the day
that I was working on this particular incident, one of my co-workers stated
to me, “You’re going to get into trouble because you’re trying to refuse a
Saudi.” My answer was, “You know, I have to do my job and I cannot use
nationality as guidance how to do or conduct my interview or take care of
business” (7.1.61-62).

Mr. Ben-Veniste continued the cross examination by verifying the factors that
Mr. Melendez-Perez considered during his secondary inspection of Mr. Kahtani. Mr.
Kahtani, a twenty-six-year-old man, was traveling alone, whereas the vast majority
of Saudi visitors to Orlando travelled in family groups. He appeared fit and had
possibly undergone military training. He appeared unable to speak or understand
Despite his lack of facility in the English language, he had no hotel reservation and gave contradictory answers as to who was supposed to assist him either immediately or within three days of his arrival. He was traveling on a one-way ticket and had no good explanation about where he was going once he departed from the United States; he did not have sufficient funds to spend six days as a tourist in the United States and then to purchase a return ticket to Dubai. He refused to provide information about the identity of the individual who would be meeting him or the friend who was going to lend him money. And he refused to answer questions once Melendez-Perez administered an oath. His attitude was unusual. He was arrogant and combative from the start, fixing Melendez-Perez with a piercing glare, and became even more confrontational as the interview process proceeded. The language interpreter confirmed there was something seriously suspicious about Kahtani (7.1.63-64). Commissioner Ben-Veniste continued his cross examination:

Mr. Ben-Veniste: And on the basis of all these factors, you concluded that Kahtani might well be a hit man here in the United States to do harm.

Mr. Melendez-Perez: That is correct.

Mr. Ben-Veniste: And yet, despite all these factors, because you were dealing with a Saudi national, you were not certain by any means that your superiors would agree with your determination to deny entry.

Mr. Melendez-Perez: That is correct. (7.1.64)

After Melendez-Perez presented his case to the supervisor, the assistant airport director (AAPD) was contacted for further instructions. The supervisor provided the synopsis and Melendez-Perez answered a number of questions from the AAPD. Additionally, Melendez-Perez explained to the AAPD, “When the subject looked at me, I felt bone chilling cold . . . bottom line, he gave me the chills. You would have to be present to understand what I’m trying to explain” (7.1.60).
Based on the fact that Melendez-Perez was able to convince the AAPD that Kahtani was “malafide,” i.e., “his true intent in coming to the United States was not clear and he appeared to be very evasive” (Melendez-Perez, 7.1.60), Kahtani was asked to withdraw his application or be set up for expedited removal. Along with another immigration inspector, Melendez-Perez escorted Kahtani to his departure gate. Perez-Melendez testified, “‘Before boarding the aircraft, the subject turned to the other inspector and myself and said in English something to the effect, ‘I’ll be back’” (7.1.61). On August 4, 2001, Kahtani departed via Virgin Atlantic flight 16 to London for a connection flight to Dubai (7.1.61).

Ben-Veniste closed his cross examination of Melendez-Perez with the following:

Mr. Ben-Veniste: Now, as we now know, with the benefit of investigations subsequent to 9/11, Mohamed Atta, perhaps the ringleader of all the terrorists here in the 9/11 plot, was at Orlando International Airport on August 4, 2001, the very day that Mohamed Kahtani claimed at least in part of his interview with you that someone was upstairs to meet him. And we know that Mohamed Atta made a telephone call from that location to a telephone number associated with the 9/11 plot. On the basis of that information, as well as significant additional information which we are now not at liberty to discuss in public session, it is extremely possible and perhaps probable that Mohamed al Kahtani was to be the 20th hijacker.

Based on that premise, and taking into account that the only plane commandeered by four hijackers, rather than five, crashed before reaching its target, it is entirely plausible to suggest that your actions in doing your job efficiently and competently may well have contributed to saving the Capitol or the White House, and all the people who were in those buildings, those monuments to our democracy, from being included in the catastrophe of
Melendez-Perez stated that he “was just doing [his] job” (7.1.57). According to Lehman, Melendez-Perez was “a first class professional” who did his job (7.1.72). In this context, it appears that doing your job included using skills and common sense (Ben-Veniste, 7.1.68); “feeling in your heart and your gut” (Roemer, 7.1.69); and “doing [a] job in a way that makes us all proud” (Ben-Veniste, 7.1.68).

Melendez-Perez chose certain sets of consequences, recognizing that he could be called to account for the consequences of his action. Guided by a sense of responsibility that was not defined by a narrow interpretation of his position description, he did what he felt he had to do. He stated, “You’re better off to make a wrong decision and send somebody home . . . than to admit somebody because we will be afraid of . . . congressional letters or letters from somebody” (7.1.66). Mr. Melendez-Perez’s expectation, or his understanding of his job, was to promote benefit or minimize harm. His advice to the higher ups from the people on the line everyday doing their job was “understand that we have to do what we have to do” (Melendez-Perez, 7.1.66).

Melendez-Perez pushed the edge of the envelope with his persistent secondary inspection of the Saudi traveler, and risked getting into trouble and negative criticism (Ben-Veniste, 7.1.62). With this broader construction of accountability, the primacy of promoting benefit or minimizing harm to others takes precedent over fulfilling role responsibilities. As a result, a person’s decision or action might be judged responsible even though it runs counter to those particular responsibilities for which he has been charged (Haydon, 1978, p. 51).

The testimony of Major General Retired Arnold, Commander of North American Aerospace Defense Command (NORAD) on the day of the terrorist attacks, provides a clear example of an instance where the right thing to do ran counter to protocol. Hijacking is a law enforcement issue and any assistance the military might
provide in these circumstances must first be requested from law enforcement. On September 11, the Boston Center of NORAD had called a possible hijacking within the system and had put the aircraft at Otis on battle stations. According to protocol, Boston had to call NORAD for permission to scramble the planes; NORAD in turn was to obtain permission from someone representing the Secretary of Defense. Once the request is approved, aircraft are scrambled. On September 11, General Arnold testified, “We didn’t wait for that. We scrambled the aircraft, told them [to] get airborne, and we would seek clearances later” (2.2.33). With the benefit of hindsight, Commissioner Gorelick applauded Arnold’s blatant disregard of protocol:

In fact, General Arnold, I am glad to see and hear that when faced with the judgment of whether you should do your job in defending the United States or wait for someone from the FBI to call you, you decided to get the authority later. (2.2.50-51)

At the same time she praised his decision to act, she paradoxically acknowledged the risk, “It probably could have gotten you court-martialed. But one appreciates that sort of leadership” (2.1.51).

Summary and Discussion

The initial plans of the 9/11 Public Hearing Commissioners and witnesses to assign accountability for the September 11, 2001, terrorist attacks was subsequently enacted as

1. Accounts of exoneration (i.e., I was doing my job).

2. Blame (i.e., deflecting accountability to others who weren’t doing their job).


Similar to the previous discussion on the accounts of intelligence failures, this section begins with the ways in which the transmission model informed the Commission’s construction of pre- and post- 9/11 accountability.
According to the transmission view of communication, speakers and writers insert thoughts and feelings into words and transfer them to listeners and readers. The process is a uni-directional or sequential process. Listeners are passive and uninvolved. All they have to do is unpack the information and use it to accomplish goals. Success is defined in terms of message distribution.

Accountability for the events leading to September 11, 2001, was similarly constructed in the Public Hearing Transcripts. There are disseminators of information who claimed exoneration. They were doing their jobs. Senator Shelby testified, for example, that it was not the fault of Congress that the Intelligence Community failed to detect and deter the attacks on the World Trade Center (2.1.22). The "aggressive" steps taken by the Senate Intelligence Committee to deter terrorism included emphasizing, identifying, listing, revealing, highlighting, detailing, and registering problems and concerns (2.1.23). Congress, according to Shelby, was doing what it could and should have been doing. In the same way, Dr. Rice, Assistant to the President for national security affairs, set goals and charged leadership and field offices to eliminate the al Qaeda network. The responsibility of the FBI was "to do what it was asked" (Rice, 9.68).

Similarly, we find examples of receivers of information who claimed exoneration. The FAA, NORAD, Consular Affairs and other consumers of information passively received and used the information that was provided. Despite evidence of the growing threat to American assets and a history of airlines being used as weapons of mass destruction, additional information was not sought out. They were also doing their jobs.

Likewise, blame was deflected to senders and receivers of information who were not disseminating and using information in ways that are assumed by the transmission model of communication. The Intelligence Community, disseminators of national security information, did not provide actionable intelligence to its
consumers. As receivers of communication, the CIA and FBI, respectively, did not respond to the direction that was provided to them by Congress and the Assistant to the President for national security affairs.

Viewed from a transmission model of communication, the dominant constructions of accountability for pre-9/11 intelligence failures in the 9/11 Public Hearings can be summarized in terms of senders and receivers of information who were/were not doing their jobs.

Similarly the strategies for accomplishing post-9/11 accountability that were recommended during the Hearings is consistent with the conduit or transmission view of communication, i.e., accountability is the delegation of authority by “A” to “B,” followed by the answerability of “B” to “A” for her performance of assigned tasks. Satisfactory performance is achieved by measuring up to the expectations of A. Depicted in this construction of accountability is a transmission view of communication. More specifically, accountability is a process whereby:

1. The content of each job, what the worker is supposed to do while at work, is formalized, explicated, and made routine in approved descriptions and training.
2. Workers are expected to extract the rules, responsibilities, and expectations and perform in a corresponding manner.
3. Evaluation of employee performance is subsequently based on how well the employee has extracted and enacted the responsibilities and expectations that had been set forth in detail.

The features of the conduit view of communication inhered in this definition include: use of language to transfer thoughts and feelings from one person to another; a sequential flow of information between those who delegate and those who are held accountable; the extraction of meaning from words by a passive listener or speaker, for the purpose of accomplishing a goal; and success defined in terms of the fidelity
between intended and enacted meaning (Axley, 1984, p. 433).

For the most part, approved position descriptions are the tools that define performance requirements for a position; however, it is also acknowledged that position descriptions cannot “fully mirror” or define all requirements (Edwards, 1984, p. 110). Two instances from the 9/11 Public Hearings where this was the case included:

1. General Arnold’s appropriate disregard for protocol when the unprecedented situation on 9/11 called for a scrambling of aircraft before acquiring standard clearances.

2. Mr. Melendez-Perez’s relentless interrogations of an arrogant, combatant, Saudi national at the Orlando International Airport despite concerns from his colleague that he may lose his job for hassling a Saudi national.

Setting aside irregular duties or even the occasional exceptional circumstances requiring efforts outside the job description, desired performance in organizations is generally formalized, explicated, and made routine by way of precisely specified tasks in position descriptions.

In Chapter Three, the transmission view of communication is presented as the institutional premise that significantly informed the dominant constructions of pre-9/11 intelligence in the Public Hearing Transcripts. Similarly, this view of communication appears as the dominant institutional premise that significantly informed the constructions of accountability by the participants in the Public Hearings. Dominant frameworks used retrospectively to make sense of our past also prospectively inform our future. By looking at current frameworks, we create opportunities to consider alternative ways of constructing both the past and future. In this vein, Chapter Five searches for a deeper understanding of the institutional and cultural frameworks that informed the construction of intelligence and accountability in the 9/11 Public Transcripts. Also presented is an alternative
framework for retrospectively constructing past accounts of 9/11 and prospectively organizing ourselves in ways that more effectively address the complexities of today’s world.
Mental models acquired and retained through life inform the interpretations of, and responses to, events (Weick et al., 2005, p. 411). In the case of the 9/11 Public Hearings, the transmission view of communication has emerged as the dominant mental model informing the retrospective construction of the events leading to September 11, 2001. This observation is aligned with Carey’s (1989) perspective of nearly two decades ago that the transmission view of communication is a dominant “motif” of Western Society; therefore, “Our thought and work have been glued to a transmission view of communication” (p. 19).

Additionally, the transmission view of communication is “congenial with the underlying wellsprings of American culture” (Carey, 1989, p. 19)—that is, the instrumental, machine-like view of society, organizations, and communication (Eisenberg & Goodall, 1993, p. 22). We live in a mechanistically-oriented nation. Not only have machines raised levels of productivity, they also have influenced virtually every aspect of our lives; for example, scientists, philosophers, and psychologists have produced mechanistic interpretations of the natural world and human mind and behaviors (Morgan, 1997, p. 12). This is readily seen in the mechanistic construction of communication and intelligence production processes as the transmission of information from a sender (e.g., the Intelligence Community) to a receiver (e.g., consumers of intelligence). This “dialectic” between our material and subjective worlds was explored in *The Social Construction of Reality* (Berger & Luckmann, 1966, p. 61): Our understanding of the world is not only shaped by our taken-for-granted reality, but also re-enacted and perpetuated, as this understanding informs our participation in, and contributions to, this world (Berger & Luckmann, 1966, pp. 21-22).
With the goal of further revealing the sensemaking structures and processes that shaped the 9/11 Commission’s accounts of accountability and pre-9/11 intelligence failures, this chapter explores the mechanistic view of Western society (i.e., the underlying wellspring of American culture) that has significantly informed these accounts. Additionally, this chapter presents autopoiesis as an alternative descriptor for system resilience and accountability for organizations residing in complex, dynamic, unpredictable environments.

The 9/11 Public Hearing Transcripts and the following discussion on mechanism and autopoiesis also reflect the changing meaning of systems in organizational research and practice. Essentially, general systems theory is a science of organizing and organization (Ruben, 1979, p. 95). Aspects of it can be traced to Aristotle who conceived of a state as “villages, which are in turn made up of households, which contain families” (Ruben, 1979, p. 96). Conceiving of things in terms of wholes and interrelated parts continues to be a basic concept in general systems thinking. The more recent history of general systems theory dates back to the 1950s when the theoretical biologist Ludwig van Bertalanffy, credited by his peers as the father of modern general systems theory (Ruben, 1979, p. 97), developed the open systems approach to organizations. This approach builds on the principle that organizations, like organisms, must achieve appropriate relations with their environment if they are to survive (Morgan, 1997, p. 39). The basic framework emerging from an open systems approach includes the following:

1. A system implies wholeness and suggests the presence of parts in relationship with one another (Ruben, 1979, p. 99).
2. Systems are embedded within physical, spatial, temporal, and sometimes symbolic sets of environments and conditions (Ruben, 1979, p. 101).
3. Boundaries not only hold together the components which make up a system, but also selectively admit and block out various inputs (Ruben, 1979, pp. 100-101).

Open systems survive only through continual exchanges with their environments, maintaining themselves through “metabolism of matter-energy and the metabolism of information” (Ruben, 1979, p. 104). In contrast, “closed” systems, a mechanistic model which comes from conventional physics, function in isolation from their environment (Ruben, 1979, p. 104).

Much of organizational theory since the 1920s has sought to overcome the limitations of the mechanistic perspective, and many of the most important developments in organizational theory over the past sixty years reflect a definite move away from a closed to an open system perspective as a source of ideas for thinking about organizations. However, mechanistic models of organizing haven’t simply disappeared with the advent of open systems theory. In fact, there are schools of system theory (e.g., structural functionalism) that are extremely mechanistic. Part of the appeal of systems theory is its ability to account for the environment, while allowing for description, prediction, and control (e.g., norms, rules, procedures, hierarchy), concepts that have roots in mechanistic thinking (Eisenberg & Goodall, 1997, p. 98). Additionally, people often rely on the language of the old vocabularies of mechanism because they have not yet acquired fluency in new ones. The following discussion on mechanism and autopoiesis, with examples from the 9/11 Public Hearing Transcripts, provides a contemporary snapshot of how these dynamics appear in practice and the ways in which scholars and practitioners are turning to systems concepts to keep abreast with increasingly complex environments.
Mechanistic View of Organizations, Intelligence Failures, and Accountability

Generally, when speaking of organizations, we have in mind a state of orderly relations between clearly defined parts that have some pre-determined order for delivering a pre-determined product. For example, the Intelligence Community was created to collect, analyze, and disseminate information for the purpose of national security. Although the image that undergirds this process is implicit, we are referencing a set of mechanical relations created to achieve other ends (Morgan, 1997, p. 13). Guided by the implicit image of a machine, we expect organizations to perform similarly: to produce predictable outcomes by performing “in a routinized, efficient, reliable, and predictable way” (Morgan, 1997, p. 12).

Organizations have become progressively more mechanized since the widespread use of machinery during the Industrial Revolution, as evidenced by the increased presence of the following in the workplace: division and specialization of labor; control of outcomes by supervision and use of machinery; reduced discretion of workers; the separation of planning and labor; and the introduction of new procedures and techniques for the purpose of routinizing employee performance (Morgan, 1997, p. 15). This is the cultural milieu in which Senator McCain, congressional sponsor of the 9/11 Public Commission, charged the Commission to “recommend . . . reforms [that] . . . rationalize the way intelligence information is collected, analyzed, disseminated and acted upon to improve the effectiveness of our efforts to deter, preempt and counter extremist terrorism” (2.1.8).

Table 1 (Chapter 1, p. 6) provides an overview of the influence of mechanistic thinking on organizational research and practices. For example, an analysis of organizations based on a mechanistic mode of thought focuses on a review of the labor, materials, instruments, and tools (including goals, tasks, roles, processes, and techniques) that are being used to attain a goal or outcome. Similarly, the
interventions designed to improve mechanistically-driven performance focus on efforts to further routinize and automate human thought and action. Potential targets for these efforts include revisions to the machinery, materials, instruments, tools, and labor involved in the production of specified outcomes. The ways in which mechanistic thinking influences organizational analysis and interventions can be seen in the 9/11 Commission’s investigation of the events leading to September 11, 2001.

For example, On April 1, 2003, Glenn Fine testified before the 9/11 Commission “about the work of the Department of Justice Office of the Inspector General [OIG] on border security issues” (1.2.5). Based on the “significant body of work by the OIG” during the previous several years, Fine presented “several broad themes that the Commission may want to examine relating to border security” (1.2.13). The following excerpt from Fine’s testimony is presented to exemplify the ways in which mechanistic thinking framed issues during the 9/11 Public Hearings:

First, information and intelligence sharing among all levels of government remains a critical component of the effort to prevent terrorist attacks in the United States. Without adequate intelligence, the ability of front line employees to screen effectively those who seek to enter the country is limited.

Second, our reviews have found that the current systems for identifying when aliens enter and leave the country are clearly inadequate. Implementing an effective entry-exit tracking system is a daunting challenge that will require substantial efforts and a large investment of resources.

Third, we encourage the Commission to focus on the often-overlooked issue of human capital. To fulfill its mission, the Department of Homeland Security must have sufficiently trained immigration staff and supervisors. Historically, this has been a challenge for the INS.

Fourth, I think it is also important to note that timely and consistent
processing of the millions of benefit applications has been a longstanding problem for the INS, and now for the DHS. An enhanced focus on border security should not override this important service-related responsibility.

And finally, the transfer of the INS to the Department of Homeland Security presents enormous management challenges. The transfer will not, in itself, resolve the issues I have identified today. Solutions to border security issues will require innovation and aggressive management oversight. (Fine, 1.2.13-14)

When issues are framed in terms of the efficiency and effectiveness of flows of information, tools, people, processes, and structures, proposed solutions also focus on these phenomena. For example, better training for baggage screeners and more effective use of the explosive detection machines were included in recommendations for making us safer when we fly (Dzakovic, 2.1.138; Mead, 2.1.92).

These examples have been presented to illustrate the dominant thinking that was in play during the Commission’s investigation of the events leading to the acts of terrorism on September 11, 2001. The next section specifically considers the influence of mechanism on the discussion of intelligence and accountability during the 9/11 Public Hearings.

**Mechanistic Thinking: Pre-9/11 Intelligence Failures and Accountability**

In Chapter 3, we saw how the pre-9/11 intelligence production process constructed during the 9/11 Public Hearings resonates with the transmission model of communication, a mechanistic view of the world. As witnesses and Commissioners constructed their accounts of pre-9/11 intelligence failures, they also recommended “fixes” (e.g., Fielding, 7.2.119; Tenet, 8.2.39), for example, the solutions for addressing problems of information flow and sharing and coordination information. The two strategies that dominated these discussions during the 9/11
Public Hearings were: (a) revamping or restructuring the Intelligence Community and (b) deploying a performance management system or system of accountability.

The following quotes from Commissioners illustrate the marriage of mechanistically-framed problems (i.e., failures to disseminate information) and mechanistically-driven solutions in the 9/11 Public Hearing Transcripts (e.g., restructuring the Intelligence Community for the purpose of holding a single person accountable, increasing centralization, and ensuring division and specialization of labor).

1. Commissioner Roemer: A little bit about the problems of communication and information sharing between the CIA and the FBI. . . . How do you fix it? Do you create more agencies to do it and more stove piping . . . or do you create this new Terrorist Threat Integration Center? Where do you put it, Homeland Security or outside of it? (1.1.307)

2. Commissioner Kean: We’ll be asking ourselves whether the FBI . . . or whether a new entity should be established to perform collection, analysis and dissemination of intelligence within the United States, primarily to prevent, curtail and combat terrorism. (6.2-3)

Similarly, the following recommendations for organizing the post-9/11 Intelligence Community are presented to further illustrate the influence of mechanism on the construction of solutions, as well as problems, during the 9/11 Hearings. Proposed strategies for preventing, preempting, or deterring future terrorist attacks on the U.S. homeland included:

1. Making do with the current organization of domestic intelligence with significant improvements; fulfilling existing authorities, as there is no real need for additional organizational structure (Fielding & Wermuth, 1.2.180-183).
2. Developing a virtual organization that pulls information into central places within the Federal Government and then moves it to people who need it, when they need and want it (Baird, 1.2.147-149).

3. Starting with “a blank piece of paper” (Larsen, 1.2.188-189) and ending up with an information integration center that will help with prevention, mitigation and response (Larsen, 1.2.162), but cannot report to the Director of Central Intelligence (Baird, 1.2.185; Larsen, 1.2.187) or the Department of Justice (Larsen, 1.2.187).

4. Using a different model (for example, a separate British MI5 type of organization) (Deutch, 4.20; Gorton & Push, 1.1.212); the Canadian bifurcation or French models; or something else (Ben-Veniste & Larsen, 1.2.199-200).

5. Instituting a system or a new organization of domestic intelligence, for example, creating a separate domestic security organization in Justice, but separate from the FBI, in the Department of Homeland Security, or as an independent agency reporting to a Director of National Intelligence (Gorton & Steinberg, 4.46).

6. Placing a new domestic intelligence service under the direction of Central Intelligence, reporting along with the CIA and Department of Defense Intelligence Service to a Director of Central Intelligence (Deutch, 4.18-19).

7. Creating a Director of Central Intelligence (Deutch & Fielding, 4.22) or a Director of National Intelligence, somebody with centralized power and authority within the intelligence community, including budget, implementation of policy and marshaling resources in the war against terrorism (Ranstorp, 1.1.315).

Many of these discussions were driven by the need to “break down the walls”
(Deutch, 4.20; Mueller, 10. 118, 122; Rice, 9.10; Thompson, 6.15) within the FBI, and between the FBI and the CIA, for the purpose of ensuring appropriate access, information flow, and the sharing and coordination of information. In this light, the discussion on the restructuring of the intelligence community appeared as a dominant solution to many of the issues that were most frequently discussed in the 9/11 Public Hearings. Similarly, the second dominant fix recommended by the participants in the 9/11 Public Hearings was a performance management system or system of accountability that clearly delineated performance expectations, processes for reporting outcomes, and rewards or consequences for performance (Chapter 4). In each of the two recommendations that dominated discussions on deterring future terrorist attacks, the focus was on improving the current practices of the Intelligence Community by further routinizing processes and delineating structures and lines of authority.

**Mechanistic Thinking: Discussion of the 9/11 Public Hearing Transcripts**

In the 9/11 Public Hearing Transcripts, we find proposed system responses (two dominant recommendations informed by mechanistic thinking) to perceived environmental exigencies. This section focuses on the environmental exigencies constructed by the 9/11 Public Hearing participants (i.e., international terrorism in the 21st century) for which these recommendations are a proposed response.

September 11, 2001, according to a number of the 9/11 Public Hearing participants, was a “wake up call” (e.g., Fetchet, 1.1.180-181; Ranstorp, 1.1.312; Shays, 2.1.77). That is, as a nation, we came to realize that we live in a world in which threats developed an ocean away can strike with “horrifying impact within our own borders” (Hamilton, 1.1.17). Our “downfall” before 9/11, according to Commissioner Cleland, was a blind eye to the changing dynamics in the environment (Cleland, 1.1.62).

Since 9/11, according to a number of the 9/11 Public Hearing witnesses, we
are a changed nation. However, we are reminded by various witnesses during the 9/11 Public Hearings that our mindsets, not the attacks on 9/11, have changed everything. Nearly 60 years ago with the 1947 National Security Act, intelligence structures, responsibilities, and authorities were established to address the challenges of the Cold War. On the eve of the terrorist attacks, however, communism had not posed a national security threat to United States for nearly ten years; yet, our national intelligence agencies had not re-oriented its mindset, culture, and institutions to the new form of terrorism that was emerging (Graham, 2.1.42):

> Our [pre-9/11] collective policy intelligence minds weren’t tuned to look the right way, even though there probably should have been plenty of evidence that we should have. . . . Our mental filters aren’t designed right . . . You want to proactively . . . try to properly tune your filters before something happens. (Hamre, 6.99)

In the 1980s and 90s, a new terrorism based on ethnic hatreds or religious fanaticism had emerged. Enabled by technology, the modus operandi of terrorists had changed from “we ‘will cause damage and terror but not kill lots of people’ to ‘we will terrify people and kill thousands of them to get their attention’” (Roemer, 1.1.52). With technology to aid in the planning, coordination, and implementation of terrorist acts, “small groups” had become serious threats to national security (Cleland, 1.1.63).

> This new form of terrorism was characterized by various witnesses during the 9/11 Public Hearings as:

1. An “open-ended thing” (Jenkins, 1.1.318), with no end state (Mead, 2.1.91)
2. A global network with a presence in over ninety-eight different countries (Ranstorp, 1.1.313)
3. A changing adversary, continually changing the way it operates (Mineta, 2.2.3)

Additionally, it was characterized as being:

1. Unencumbered by physical and international borders (Cleland, 1.1.63); for example, a terrorist with a wireless Internet connection in a cave in Afghanistan can learn as much about America as any of us know (Schumer, 2.1.66)

2. Empowered by technology “to the point that small groups, or even individuals, can now inflict a degree of death and destruction heretofore reserved to great armies” (Cleland, 1.1.63)

3. Emboldened by the fact that terrorism has breached the borders of the United States (Wermuth, 1.2.212)

This synthesis of post-9/11 testimonies suggests a view of the environment that did not exist prior to September 11.

In response to these environmental exigencies (an open systems concept), the witnesses recommended further routinizing and controlling the activities of the Intelligence Community by restructuring the Community and implementing a performance management system. On the one hand, the 9/11 Public Hearing witnesses acknowledged dynamic environments; on the other hand, their recommendations were largely informed by mechanism, an approach that is most effective when the environment is stable, there is a straightforward task to perform, one wishes to produce exactly the same product time and again, and the human "machines" will perform as they have been instructed to perform (Morgan, 1997, p. 27). This nexus of the mechanistic and open system views of organizations is clearly articulated in Katz and Kahn’s *The Social Psychology of Organizations* (1966), “a landmark application of system theory to organizations” (Eisenberg & Goodall, 1993, p. 97):
Katz and Kahn argued that organizations were fundamentally open systems in which people were bonded together by psychological constructions and symbolic as well as behavioral responses to their environments. Furthermore, organizations contain a great deal of variety and therefore uncertainty, owing to the individualistic nature of the humans within them. Variety and uncertainty are in turn balanced by certain control mechanisms (e.g., norms, rules, procedures, hierarchy) that subordinate individual needs to the requirements of effective organization. Creating ways to integrate and coordinate these components—while remaining open to the changing demands of the environment—required systems management by persons sensitive to the dynamic interdependencies at work. The goal was to ensure that the system remained open and hence capable of adaptation. (Eisenberg & Goodall, 1993, p. 97)

This discussion on “remaining open to changing demands of the environment” (open systems concepts) and “certain control mechanisms” (mechanistic concepts) reveals the mix of sensemaking structures that shaped both the investigation and recommendations during the 9/11 Public Hearings. It is useful to note the disconnect. On the one hand, the 9/11 Public Hearing witnesses and commissioners took into account the variety and uncertainty in the environment of the 21st century; on the other hand, they adopted a largely mechanistic framing of problems that, in the end, narratively reduced solutions to mechanistic responses that are better suited for stable, predictable, certain environments.

Autopoiesis: An Alternative Descriptor for System Resilience and Accountability

An alternative to mechanistic descriptions of organizations, autopoiesis offers powerful “images, metaphors, and ways of thinking” and talking about system failure/resilience and accountability (Wheatley, 1994, p. ix). Resilience, defined in terms of autopoietic structures, is the system’s ability to create new knowledge and
reconfigure itself so it can deal with flux in the environment. Rather than preserve a
given, fixed structure, the system adapts through continuous learning and change;
that is, it creates, elaborates, and changes structures in order to remain viable as
ongoing systems (Buckley, 1967, p. 5). For this reason, autopoietic systems are
frequently referred to as self-organizing or self-renewal systems (Wheatley, 1994, p.
88). Table 5, a summary of the theory on autopoiesis presented in Chapter One of
this paper, presents ways in which the language of autopoiesis or self-organizing
systems offers an alternative vocabulary to that of mechanism for theorizing
organizational resilience.
Autopoiesis, a new vocabulary for building system resilience:

- Unpredictability and flux in the environment are viewed as opportunities for system growth and resilience.
- Knowledge of the environment and the tools and processes for generating knowledge are resources for system development.
- Because people have some control over the tools and processes for generating knowledge, there are opportunities for shaping the future of the system.
- Key to shaping the future is ensuring the tools and processes for creating knowledge are as complex, dynamic, and diverse as its environment.
- Tools and processes for leveraging system resilience in dynamic environments include (a) a clear sense of identity that guides the action of its members and (b) processes that facilitate participation, the continuous generation of knowledge, and action.

Resilient self-organizing systems survive by responding to new environmental conditions. This sort of agility, however, exists only when systems continuously generate information/communication/knowledge about the ever-changing environment. It is important to note, however, that the creation of new information, in the case of self-organizing systems, is not a mechanistic transmission of information from one place to the next. Focusing on insights from connections of various people/expertise, advocates for self-organizing systems encourage a new form of exchange, interactions, relationships, engagement, and participation for organizations. The difference, according to Ruben (1979), is between an information system and a communication system:
As long as the primary focus is upon the mechanical flow of messages . . . it
would still be termed an information system. Only when the significances,
competencies, purposes, functions, and desires which [participants bring] to
the situation were defined as a crucial aspect of the system, would it meet the
definition of communication system. (p. 110)

Table 6 presents assumptions from the theory of self-organizing autopoietic
systems that are relevant to this project on system resilience, and their implications
for organizational action.
#### Table 6

**Autopoiesis: Assumptions and implications for organizational practices**

<table>
<thead>
<tr>
<th>Autopoietic assumptions</th>
<th>Implications for organizational practices</th>
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<tbody>
<tr>
<td>There are “no pre-fixed, definitely describable” environments (Wheatley, 1994, p. x). A system places a variety of responses into the environment and determines what works. Through action, we develop not only our systems, but also our environment.</td>
<td>Action over planning is preferred by advocates of autopoiesis (Weick, 1979; Wheatley, 1994, p. 37).</td>
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<tr>
<td>An autopoietic perspective assumes flux in the environment. Knowledge is provisional, as “everything is always new and different and unique” to us (Wheatley, 1994, p. 7).</td>
<td>An autopoietic system fosters resilience and sustainability through its continuous generation of knowledge (Wheatley, 1994, p. 104).</td>
</tr>
<tr>
<td>Autopoiesis assumes every act of observations loses more information than it obtains, as each interpretation of an event is specific to the observer (Wheatley, 1994, p. 65).</td>
<td>The broader the distribution of information, viewpoints, and interpretations, the greater the opportunity to create new knowledge, resilience and sustainability (Wheatley, 1994, p. 64).</td>
</tr>
<tr>
<td>“Innovation is fostered by information gathered from new connections” (Wheatley, 1994, p. 113).</td>
<td>Autopoiesis encourages relationships that foster the connection of people/information, e.g. inter-disciplinary relationships (Wheatley, 1994, p. 113).</td>
</tr>
</tbody>
</table>
Building System Resilience: An Autopoietic/Sensemaking Model

*Autopoiesis* conceptualizes system resilience in terms of the system’s ability to represent its environment—that is, its descriptions/communication/knowledge of the environment (Luhmann, 1990). As a consequence, this theory brings to our attention the importance of continuous learning for organizations that reside in ever-changing environments. Similarly, the construct *sensemaking* furthers our understanding of system-environment relations by focusing on organizational activities at “moments of flux” (Weick et al., 2005, p. 413), i.e., “when the current state of the world is perceived to be different from the expected state of the world” (Weick et al., p. 409).

How organizations construct relations with the environment, why, and to what effect is the focus of sensemaking (Weick, 1995, p. 4). In an effort to guide research and practice in this area, Weick, Sutcliffe, and Obstfeld (2005) compressed the seven sensemaking activities (discussed in the second chapter of this paper) into a sequence of activities that “mobilize around moments of flux” (p. 413). Depicted graphically in Figure 4, the ESR model conceptualizes system-environment relations, or resilience, as “reciprocal exchanges between actors (Enactment) and their environments (Ecological Change) that are made meaningful [by being Selected] and preserved (Retention)” (Weick, Sutcliffe, & Obstfeld, p. 414).

Figure 4
*Resilience, in terms of the ESR sensemaking sequence* (Weick, Sutcliffe, & Obstfeld, 2005, p. 414)

Source: adapted from Weick, Sutcliffe, and Obstfeld, 2005, p. 414.
Using the ESR sensemaking model, we can conceptualize the kinds of organizational practices that foster continuous learning, self organizing, and system resilience. Keeping in mind the difficulty of translating open systems concepts to organizational practices, this section focuses on bringing together two theoretical concepts, *self reference* and *ambivalence*, from autopoiesis and sensemaking for the purpose of identifying the kinds of organizational practices that foster system resiliency.

**Self Reference**

A fundamental principle of all self organizing principles is self-reference (Wheatley, 1994, p. 94):

In response to environmental disturbances that signal the need for change, the system changes in a way that remains consistent with itself in that environment. The system is autopoietic, focusing its activities on what is required to maintain its own integrity and self-renewal. As it changes, it does so by referring to itself; whatever future form it takes will be consistent with its already established identity. Changes do not occur randomly, in any direction. They always are consistent with what has gone on before, with the history and identity of the system. . . .

When the environment demands a new response, the [system] is a reference point for change. (Wheatley, 1994, p. 94)

Examples of points of reference available to systems when the environment signals a need for change include the system’s values, vision, culture, competencies, procedures, processes, and practices. Each, according to Weick (1979) is a “historical document,” stored as part of the system's memory or retention processes that serve as plausible guides for subsequent activities (p. 229).

Figure 4 graphically portrays the activities of selection, enactment, and retention and the role these activities play in establishing points of self-reference as guides for subsequent activities. During the process of selection, a number of
possible meanings for equivocality in the environment are reduced to plausible accounts of the events. It is important to note that these accounts are simultaneously the adoption of a description of the environment and a loss of other possible descriptions. Stored as “historical” documents (Weick, 1979, p. 229), selected descriptions are available to guide future descriptions of unexpected flux in the environment. Similarly, previous actions by the system are available to guide current and future responses to equivocality in the environment.

Ambivalence

Self-reference, however, does not mean that members of an organization must be “victimized by . . . their parochial volition” (Weick, 1979, p. 177). Experience retained as memory can serve as a constraint on the ways in which new experiences are interpreted and responded to, or experience can serve as a point for interjecting “chronic doubt” (Weick, 1979, p. 177) or ambivalence (Weick, Sutcliffe, & Obstfeld, 2005, p. 414) about previous interpretations and responses. For example, in contrast to mechanistic views of organizing, agents in self-organizing systems are continuous learners whose lessons from past experience are always open to change.

In fact, this ambivalent use of previous knowledge is the crux of autopoietic systems; that is, ambivalence distinguishes open, developing autopoietic systems from mechanistic systems that are closed and static. To avoid stasis, entropy and death, systems must be able to view the system’s history/memory ambivalently, both believing and doubting it in future enacting and selecting (Weick et al., 2005, p. 414):

Only with ambivalent use of previous knowledge are systems able both to benefit from lessons learned and to update either their actions or meanings in ways that adapt to changes in the system and its context. (Weick, Sutcliffe, & Obstfeld, 2005, p. 414)
Self-reference and Ambivalence: The Case of 9/11

Organizations that assume a stable environment tend to be preoccupied with the past, following prescribed procedures and improving standardized processes and procedures when errors occur. In short, history is believed to be the best lesson. This tendency to prepare for the future by reactively responding to past failings was an expressed concern of witnesses in the 9/11 Public Hearings. According to the witnesses, this tendency is a “recurring theme in the government,” both pre- and post-9/11 (Push, 1.1.171). For example, when al Qaeda mounted land suicide attacks against the U.S. embassies in Kenya and Tanzania in August 1998, Americans increased the perimeter security of their land targets. When al Qaeda attacked a maritime target, the U.S.S. Cole in 2000, Americans increased the perimeter security of their maritime targets. But then al Qaeda again fooled the United States and conducted an airborne suicide attack (Gunaratna, 3.3).

Additionally, it was noted during the Public Hearings that the pre-9/11 aviation security model had been based on lessons learned from previous disasters; for example, screening check point security was the direct result of aircraft hijacking worldwide during the 60s and 70s, airport access controls were strengthened after the crash of Pacific Southwest Airlines flight 1777 in 1987, and checked baggage security was strengthened during the 90s after the bombing of Pan Am 103 (Mead, 2.1.92).

Similarly, post-9/11 counterterrorism initiatives continued to focus on lessons learned. Examples provided by witnesses included the airport checks on everybody’s shoes after Richard Reid boarded an airline with a shoe bomb (Push, 1.1.171; Thompson, 1.2.82), and the State Department’s temporary denial of visas, immediately after 9/11, to students wanting to study flying in the United States (Dillingham, 1.2.37).

Consistent with the creativity of sensemaking, witnesses in the post-9/11
public hearings looked for alternatives to “closing the barn door after the horse is out” (Cleland, 2.1.104). These included looking to the future as well as understanding our historic shortcomings, “to better order our future steps in security” (Ranstorp, 1.1.256; see also Corzine, 2.1.62).

Post-9/11 we find a greater openness for seeking an understanding of, and responding to, the complex dynamic environment of the 21st century. From the 9/11 Public Hearing Transcripts, for example, there is an expressed interest in achieving a better understanding of:

1. The psychological makeup of the terrorists, their decision making procedures, and how they identify targets and attack modes (Ranstorp, 1.1.264-265).

2. How terrorism is structuring, changing, and adapting (Ranstorp, 1.1.263); what drives and motivates it; the source of its power; the resources at its command; its internal strengths and weaknesses; and the identity, roles, and motives of its allies, enablers, and supporters (Kean, 3.1).

3. The web of relationships in the Muslim world (Fandy, 3.5).

4. The context and forces that make al Qaeda appealing to its recruits in the Muslim world (Fandy, 3.5).

The 9/11 Public Hearing Transcripts suggest that there is a growing recognition of the need for a new perspective and language for building system resilience, one that links knowledge, environment, innovation, and accountability. While autopoiesis and sensemaking offer theoretical concepts (e.g., self reference and ambivalence) for understanding the dynamics of stability and innovation in dynamic complex environments, the question remains, How do we move from theory to practice?
An Autopoietic/Sensemaking Model

Figure 5 graphically portrays the ways in which both autopoiesis and sensemaking can inform organizational practice. This model presents the ESR Sensemaking Sequence of enactment-selection-retention (Weick et al., 2005, p. 414) as activities that constitute the system’s ability to represent the environment. Additionally, it expands the ESR model to include the concept of ambivalence. Along with their graphic depiction of the ESR sequence, Weick, Sutcliffe and Obstfeld (2005) also identified the critical role that ambivalence plays if systems are to have meaningful exchanges with their environments. That is, “These exchanges will continue only if the preserved content is both believed . . . and doubted” (2005, p. 414). However, this critical activity was not visually depicted in the Weick et al. (2005) model. Additionally, Figure 5 specifies the kinds of retained plausible stories that inform, according to an autopoietic view of organizations, system-environment activities—that is, the system’s plausible stories of previous system-environment experiences and stories on how members of the system engage with one another as well as with the environment (Wheatley, 1994, p. 91). A summary of the concepts from autopoiesis and sensemaking that have informed this model are presented in Table 7.
Figure 5
Building system resilience: An autopoietic/sensemaking model

![Diagram](image)

Source: adapted from Weick, Sutcliffe, and Obstfeld, 2005, p. 414.

Table 7
Building system resilience: An autopoietic/sensemaking model

<table>
<thead>
<tr>
<th>Autopoietic/sensemaking assumptions</th>
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<tr>
<td>• The future form of an autopoietic system will be consistent with its previous history.</td>
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<tr>
<td>• How selections and enactments are chosen can be both an acceptance and rejection of the system’s past or conventional way of seeing things.</td>
</tr>
<tr>
<td>• The system’s ability to be innovative can exist only if the organization has access to new information about external conditions and internal resources (Wheatley, 1994, p. 91).</td>
</tr>
<tr>
<td>• The knowledge that is generated and the tools and processes that generate new knowledge are viewed as resources for building system resilience.</td>
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Figure 5 also suggests ways in which leaders can foster a coordinated system-informed response to the environment. The system’s knowledge (i.e., its previous experiences) is the history that informs the system’s future. However, a self-organizing system assumes that every experience is unique (Wheatley, 1994, p. 38).
Therefore, self reference as a guide for future action is most effective when it is coupled with an ambivalence about the usefulness of previous experiences and the ways in which new knowledge is continuously generated. Given the critical roles that ambivalence and new knowledge play in the responsiveness and sustainability of organizations, the development of these sensemaking processes and structures are the kinds of contributions for which leaders should be held accountable.

Practical Implications for Future Organizational Practice

An organizational sensemaking model (e.g. ESR) is a composite of multiple sensemaking processes that occur in organizations. For example, the repertoire that informs how we participate in organizational life includes the knowledge, skills, abilities, values, identity, etc. that I bring to the position, as well as the organizational premises, plans, expectations that I find in the workplace. Additionally, my ongoing performance in the organization, also retained in memory, may influence how I interpret and respond in the future. When we recognize that organizational sensemaking is the composite of an array of diverse sensemaking processes that individuals engage as they go about their work, we realize the multiplicity of individual frameworks, as well as organizational frameworks, that inform individual and organizational performance. With this in mind, we cannot escape the critical role of leaders as sensemakers within the system whose task is to provide their members with a self-referential system of organizational enactments for making sense of, and responding to, changes in the environment. In this capacity, leaders are uniquely positioned to significantly influence the contributions of individual members to organizational life. An overview of the following discussion on the ways in which leaders can uniquely influence system resilience and accountability is presented in Table 8.


<table>
<thead>
<tr>
<th>Leadership Sensemaking Roles</th>
<th>Leadership Practices</th>
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<tr>
<td>Building system consciousness</td>
<td>Developing key principles that express the overall identity of the system</td>
</tr>
<tr>
<td></td>
<td>Saturating the organization with consistent messages about the organization, what it is, what it stands for</td>
</tr>
<tr>
<td>Designing heedful interrelating</td>
<td>Engaging a greater number and diversity of people</td>
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<tr>
<td></td>
<td>Loosening controls on engagement, participation, and action</td>
</tr>
<tr>
<td>Legitimizing ambivalence in the workplace</td>
<td>Admitting, “We don’t know.”</td>
</tr>
<tr>
<td></td>
<td>Asking, “What is new?”</td>
</tr>
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**The Role of Leaders: Building System Consciousness**

- Developing key principles that express the overall identity of the system
- Saturating the organization with consistent messages about the organization, what it is, what it stands for

In mechanistic organizations, leaders attempt to control performance by standardizing organizational inputs and outputs, such as communication. For
example, at a recent planning meeting attended by middle management, the desired outcome for the meeting was a process for improving communication from the executive vice president (EVP) to the staff who report directly to her. Agenda items for accomplishing this task included: What information do we want the executive vice president to share with us, how often should she communicate this information, and to whom should this information be disseminated? The problem was identified in previous meetings as a need for the various administrative units to work as a team. After multiple meetings, the issue was framed as a need for better communication from the EVP, and the solution was to be found in established processes for channeling particular kinds of information from the EVP to subordinates. This example serves as a prototype of how processes, procedures, and practices are often accomplished in mechanistically-driven organizations. A problem is identified, solutions are generated, and rules are established for the purpose of guiding future actions.

Organizations that are viewed as autopoietic processes, in contrast to the above approach, foster organizational coherence by using a few key patterns or principles to guide organizational activity. To this end, leaders of these organizations are accountable for creating an organizational environment where ideas connect, cohere, and inform members’ actions. The goal is system consciousness; that is, throughout the system, ideas guide individuals’ interpretations of, and responses to, the environment. Leadership practices that foster system consciousness include developing, and saturating the organization with, principles that can guide organizational activity.

Leadership Practice: Developing Key Principles that Express the Overall Identity of the System

These principles can be articulated in the form of inspiring visions, strong values, organizational beliefs, and concepts. For example, the mission of an
academic institution stated in terms of teaching, research, and service qualifies as an inspiring vision. On both the academic and administrative sides of educational institutions, we often find faculty and staff who have joined the institution for this very reason. They want to be part of something worthwhile, something they believe in. In practice, however, this mission seldom guides the whole institution and is often adopted and perpetuated only by the academic leadership. On the non-academic side, each vice president typically has a mission statement for her area, and within each vice presidential area, divisions often have their own mission statements. For example, the mission of a Division of Physical Plant is to:

Maintain and improve a physical environment conducive to teaching, learning, and research. To this end, the Physical Plant Division is responsible for the operation, maintenance and repair of the educational buildings, utilities, and rounds of the University campus.

And the mission of a Division of Environmental Health and Safety is to promote and assist in the achievement of a safe and healthful University environment. To whatever extent an employee of either of these divisions might find the missions exciting and inspiring, the fact remains that the university is fragmented into competing units to which individuals identify and commit. In organizations guided by the spirit of autopoiesis, leaders are accountable for constructing ideas that connect, rather than perpetuate, discrete and distant actions and events.

Leadership Practice: Saturating the Organization with Consistent Messages about the Organization

In organizations that are guided by the spirit of autopoiesis, information is treated as "the primal energy that structures matter into form" (Wheatley, 1994, p. xi). In these organizations, leaders are responsible not only for creating but also for saturating the system with clear messages about the organization—i.e., what it is and what it stands for—to serve as self-referential resources that guide current and
future actions. Recognizing the array of diverse sensemaking frameworks that individuals bring to the framework, not to mention competing sensemaking frameworks that can be found in organizations, it is important for these messages to be ever present as a resource in the workplace. This requires a presence greater than the kind that can be found by hanging vision, mission, and value statements on the wall, i.e., it requires an engaged, participating manager such as the one described in the following excerpt from the 9/11 Public Hearing Transcripts:

I’ve been working for George Tenet [Director, Central Intelligence Agency] in the last month and a half, I’ve gone to his 5:30 meeting which is a meeting of George and his principle officers that are involved in clandestine services . . . .

That meeting, I would guess, is the closest you can come to an operational meeting where somebody says, I want to do the following, go do it, talk to somebody in this country and tell them not to do this tonight, because we’re worried about it, do something else. It is an operational role . . . that kind of operational level detail.

Now I don’t know how to replicate that, and at what level you do it, but I know it needs to be done. And quite honestly, I’ve talked to some people about this and they’d say, well, you talk about micromanagement, that’s the ultimate in micromanagement.

Now, can someone else do that? It’s not obvious to me that someone more distant than George Tenet from the people who do real stuff, who send real messages . . . if you get much farther away from that ability I think you’re in a fair amount of trouble . . . . It does sound like micromanagement to me but from my perspective that’s really damn good micromanagement, that’s doing the hard work at the right place . . . .

Now, how do you institutionalize that and make that a part of the
Although Thompson can’t determine whether Tenet is a micro-manager, his description of Tenet’s hands-on, engaged management style suggests a process for building system consciousness that, if replicated system wide, can cohere discrete and distant activities in the system. Tulgan (2004) agrees. Hands-on management is not the same as micro-management:

There has been so much emphasis on empowerment in recent years, and fear of micro-management, that managers have moved too far afield of providing direction. If you want to empower direct reports, you must define the terrain in which they have power. (Tulgan, 2004, p. 7).

While the articulation of these underlying principles is important, Wheatley (1994) warns, “It’s only half the task” (p. 55):

Creating the field through the dissemination of those ideas is essential. The field must reach all corners of the organization, involve everyone, and be available to everywhere. . . . We need to imagine [leaders] as broadcasters, tall radio beacons of information, pulsing out messages everywhere . . . stating, clarifying, discussing, modeling, filling all of space with the messages we care about. If we do that, fields develop—and with them, their wondrous capacity to bring energy into form. (pp. 55-56).

Hands-on leaders in organizations guided by the spirit of autopoiesis engage in saturating the organization with self-referential information about its identity, for the purpose of guiding and cohering the various activities throughout the system. The activity of these sensemakers, resembling broadcasters, pulse out messages everywhere.
The Role of Leaders: Designing Heedful Interrelating

Designing heedful interrelating

- Engaging a greater number and diversity of people
- Loosening controls on engagement, participation, and action

In mechanistic organizations, leaders attempt to harness variety and complexity by regulating inputs from the environment and following standardized processes. This can be seen in the narrow definition of national security intelligence that was in place before September 11, 2001. National security intelligence, according to various participants in the 9/11 Public Hearing Transcripts, was the information collected, analyzed, and disseminated by the Intelligence Community. Information that did not originate from formal intelligence production processes did not qualify as actionable intelligence. This approach fragments information, drawing lines between what (and who) informs the system. Similarly, with its focus on standardization, mechanistic organizations tend to regulate, standardize, and homogenize the training and development of staff—that is, people develop the knowledge, skills, and abilities needed to work within the current system.

In contrast to mechanistic organizations, organizations that are guided by the spirit of autopoiesis respond to environmental complexity by developing the variety and complexity of the system’s knowledge base. No one has a more sweeping opportunity to accomplish this than leaders. That is, leaders not only have a unique opportunity to saturate the organization with principles that cohere and coordinate discrete and distant actions, they also are uniquely positioned to develop the people, processes and structures in ways that develop complex responses to complex environments. The goal is what Weick and Roberts (1993) call heedful interrelating.

The concept of heedfulness designates behaviors suggestive of "noticing,
taking care, attending, applying one’s mind, concentrating, putting one’s heart into something, thinking what one is doing, alertness, intentness, studying and trying” (Ryle, 1949, p. 136; see also Weick & Roberts, 1993, p. 361). It is about seeing, taking note of, being attentive to, competence, and know how, and requires a kind of learning and training that is not often found in mechanistically-structured organizations:

Heedful performance is not the same thing as habitual performance. In habitual action, each performance is a replica of its predecessor, whereas in heedful performance, each action is modified by its predecessor (Ryle, 1949: 42). In heedful performance, the agent is still learning. Furthermore, heedful performance is the outcome of training and experience that weave together thinking, feeling, and willing. Habitual performance is the outcome of drill and repetition. (Weick & Roberts, 1993, p. 362)

Heedfulness, according to Weick and Roberts (1993) is “a kind of capacity in an ongoing activity stream [that] emerges in the style with which activities are interrelated” (p. 365). The unique opportunity for leaders is the actualization of this capacity by developing both the “know how” that individuals contribute to the system and the patterns of interrelated activities among members of the system. Discussion of the kinds of leadership practices that enable creative, responsive, heedful responses to emergent environmental demands follows.

Leadership Practice: Engaging a Greater Number and Diversity of People

The ESR sensemaking sequence, a model that continues to inform this discussion on implications for future organizational practices, defines the system’s relationship to the environment in terms of “reciprocal exchanges between actors (Enactment) and their environments (Ecological Change)” (Weick et al., 2005, p. 414). With this model, we can visualize how reality is revealed “through an active construction in which we participate” (Prigogine & Stengers, 1984, p. 293; see also
Wheatley, 1994, p. 65). Additionally, taking into account Buckley’s (1967) observation that “only variety can regulate variety “ (p. 495), the relationship between the numbers and diversity of individuals engaged in the interpretation of, and response to, the environment is made clear. According to Wheatley (1994), the environment is a potential relationship that can be realized by way of participation, and the more participants we engage in this relationship, the greater the opportunity for evoking multiple interpretations and building system heedfulness (p. 64).

This was a dominant observation also made by witnesses during the 9/11 Public Hearings. At the core of a call for “a systematic rethinking about the way we do business” was the realization that the kind of counterterrorism that we are facing in the 21st century is a task that is much broader than any national security issue previously experienced by the United States (Steinberg, 4.34). As a result, it became clear to a number of witnesses that the information and expertise needed to fight the war against terrorism was “not going to be picked up in traditional collection systems” (Gannon, 4.52). To this end, a number of witnesses called for “an approach that reflects this far flung, highly decentralized universe of critical actors” (Steinberg, 4.34). Suggestions for being more inclusive in the engagement against terrorism included unprecedented involvement from the following:

1. Local level police departments (Roemer & Jenkins, 1.1.302-303).
2. Front line employees who need to use information to screen people who come to the United States (Fine, 1.2.13) and need to use initiative and their brains to do the job they are trying to do (Dzakovic, 2.1.139).
3. Linguists (Harman, 2.1.41).
4. Individuals with the worst kinds of backgrounds, the worst kinds of criminal and humanitarian deficiencies (Deutch, 4.33), bad guys who know a lot about what is going on in their respective communities (Thompson, 6.18).
5. The private sector (Brill, 1.2.126).

6. Academia (Jouejati, 3.58).

7. The public (Gunaratna, 3.25).

System resilience, according to 9/11 Public Hearing witnesses is not just a task of government. Participation “seriously done” (Wheatley, 1994, p. 64) provides the multiplicity of viewpoints, perspectives, and interpretations that are needed to make sense of the world and build system heedfulness. Designing structures that foster inclusiveness, participation, and diverse contributions is an opportunity uniquely held by leaders and one for which leadership should be held accountable.

**Leadership Practice: Loosening Controls on Engagement, Participation, and Action**

Mechanistic organizations draw boundaries everywhere. Examples include boxes on organizational charts, chains of command, job titles, and position descriptions. Each of these distinctions aims to limit individuals’ participation, responsibility, authority, and accountability. With each designation, workers are further fragmented. The accountant, for example, is to bring his analytic mind to his work but, for the most part, his emotions and intuitions are to be restrained, if present at all, in the workplace. Those who step out of their designated places risk a range of disciplinary actions, including reprimands, loss of merit increases or opportunities for promotion, and dismissal. This selective recruitment of parts of human beings to perform clearly specified tasks robotizes the work place. In this distinctly anti-human context (Senge, 1990; Wheatley, 1994), it is not unusual or surprising that individuals are unwilling to look beyond the performance of their own jobs, to the survival and well being of the whole organization.

The survival and growth of organizations guided by the spirit of autopoiesis, in contrast to mechanistic organizations, depend on increased levels of participation from individual system members. The concept “Think globally; act locally” captures the essence of these organizations. Not to be confused with previous misconceptions
of empowerment (i.e., individual workers were to be set loose to do what they thought was best for the customer or the organization), these organizations build resilience by:

1. Encouraging autonomy, constrained only by the guiding principles or identity of the organization.
2. Holding individuals accountable for the survival and viability of the organization.

In line with the holistic perspective that system thinking offers, the focus is on honoring, appreciating, and engaging the totality of the individuals.

In this sort of individual-organization relationship, leaders foster ownership. By inviting the whole individual to engage in circumstances greater than the day-to-day routine tasks of a job, leaders foster personal emotional attachments to the well being of the whole organization. This kind of participation and ownership can be seen in the performance of two witnesses who appeared before the 9/11 Public Hearing. Mr. Melendez Perez, the immigration inspector at the Orlando airport who persistently questioned a Saudi traveler despite the possibility of reprimands and disciplinary action, may have prevented a twentieth 9/11 hijacker from entering the country. And General Arnold, risking court martial, scrambled aircraft on September 11 without obtaining required clearances. In each case, the heroism of these individuals on 9/11 looks different from the heroes of a mechanistic system where heroism is defined in terms of following the rules, and individuals such as Mr. Melendez Perez and General Arnold would be perceived as, if not reprimanded for, being loose, uncontrollable cannons.

Not only do mechanistic organizations restrict the kinds of knowledge, skills, and talents that individuals are to contribute to the organization, they also keep a tight rein on interactions among individuals. This can be seen clearly in organizations with silos and rigid chains of command. For example, protocols in
some 21st century organizations require Employee A to transmit a message to Employee B by having it travel “up” A’s chain of command and then down B’s chain of command, until it reaches Employee B.

In organizations guided by the spirit of autopoiesis, the issues are not controls on the contributions of its members and flows of information, but dynamic connectedness (Wheatley, 1994, p. 23). With its focus on continuous learning and change, these organizations strive to make connections that previously did not exist. In language frequently used in the 9/11 Public Hearing Transcripts, these organizations strive to connect the dots (Armitage, 8.2.185; Ashcroft, 10.1.142, 166, 166; Baird, 1.2.146; Ben-Veniste, 11.1.146, 12.1.114; Clark, 8.2.121; Cleland, 2.1.18; Fetchet, 1.1.218; Fielding, 10.1.19; Gorton, 4.8-9; Hamilton, 8.2.189, 199; Kerr, 4.61; Kerrey, 11.1.147, 11.2.108; Lehman, 12.1.117, 12.2.48; Lieberman, 2.1.15; Reno, 10.1.62; Rice, 9.20; Roemer, 10.1.110; Rumsfeld, 8.1.133).

However, in the case of autopoietic systems, the focus is not on collecting sufficient dots of data from the environment in order to act with certainty. The dots to be connected are the dots of information held by individuals within the various parts of the system. “These unseen connections between what were previously thought to be separate entities,” according to Wheatley (1994) “are the fundamental elements” of new knowledge (p. 10). As a result, with circular flows of information throughout the system, systems can connect various understandings of small fluctuations that vary from the norm (Wheatley, 1994, p. 19) and increase the number and complexity of its interpretations of the environment. These circular flows of information can be likened to a train on a toy railroad, circling through its recurring journey (Senge, 1990, p. 76). Coursing through the system in recurring loops, the sense that has been made of bits or dots of information can become more complex. That is, sensemaking “grows in strength” (Wheatley, 1994, p. 19) as it continuously informs, and is informed by, those who are participating in the conversation. These circular
flows of information, according to Senge (1990), are “reciprocal flows of influence” (p. 75). In this way, systems can connect dots and increase the variety and complexity of its knowledge base. That is, they can build “the variety that regulates the variety in the environment” (Buckley, 1967, p. 495)—that is, the variety that is fundamental to system heedfulness, resiliency, and viability. Such opportunities can be found in the establishment of interdisciplinary programs, cross-functional teams, task forces, and cross training. Fundamental to the success of these efforts is the organization’s ability to fully engage its workers.

Also fundamental to the development of the system’s knowledge base is the development of its members. Foremost among the knowledge, skills, and abilities that are needed for autopoietic processes are: ongoing development of general knowledge and skills, in contrast to the precise knowledge or skills that are needed for one’s current position; the development of a system consciousness, one that focuses on the whole of the organization, rather than the innumerable fragments that we have been enculturated to believe and see in our organizations; and the development of skills (e.g., facilitating groups and listening to others) that build strong relationships and foster learning (Senge, 1990; Wheatley, 1994).

Organizational leaders hold a unique opportunity for developing people, processes and structures that develop system-wide heedful interrelating. Opportunities for building heedful interrelating can be found in:

1. Designing organizations that more fully engage the knowledge, skills, and abilities that individuals bring to their positions.

2. Creating opportunities for circular flows of information through the organization so that its members can continuously contribute to the variety and complexity of the system’s stock of knowledge (Berger & Luckmann, 1966) and learn from others.
3. Expanding the potential of the organization by expanding the knowledge and skill base of its members beyond the requirements of their current positions.

The Role of Leaders: Legitimizing Ambivalence in the Workplace

Legitimizing ambivalence in the workplace

- Admitting, “We don’t know.”
- Asking, “What is new?”

The two previous sections have focused on more commonly discussed topics in organizational development, including providing guiding principles for organizational action, fostering inclusiveness and diversity, and more fully engaging workers in the workplace. The focus of these discussions has been a realignment of these frequently discussed practices to the newer view of organizations as autopoietic systems. This section continues to explore the application of autopoietic concepts to organizational practices. In this case, the focus is not on re-defining old labels, but on introducing a concept that is, for the most part, novel to current organizational practitioners. This is the concept of “legitimizing doubt” (Weick, 2001, pp. 91-102) or ambivalence in the workplace (Weick et al., 2005, p. 414).

Sensemaking models, such as the ESR Sensemaking Sequence, highlight the significance of ambivalence for systems whose environments are dynamic, complex and ever changing. What these models reveal are the potential for system learning and autonomy that occurs during system-environment exchanges. These exchanges are made meaningful by the system when it retrospectively notices, brackets, labels, and categorizes these experiences, using mental models acquired over time to make sense of the experiences. However, only with ambivalent use of previous knowledge are systems able both “to benefit from lessons learned and to update either their actions or meanings in ways that adapt to changes in the system and its context”
(Weick, Sutcliffe, & Obstfeld, 2005, p. 414). For systems that reside in complex environments, ambivalence is fundamental to continued learning, resilience, and viability.

Mechanistic organizations view the world as stable and knowable. Thus, in these sorts of organizations, we find routines, standardized practices, and searches for actionable intelligence—that is, a search for sufficient amounts and specificity of information in order to act with certainty, accuracy, and efficiency. In contrast, organizations guided by the spirit of autopoiesis view the world as unfolding events that require an ongoing updating of the system’s experiences with the environment. In this updating of its experiences, the system builds the variety and complexity of its stock of knowledge. The focus of these organizations is not the day-to-day application of what is known, but an ambivalent use of its stock of knowledge, honoring both what is known and what must also be created. This is the crux that distinguishes mechanistic and autopoietic views of organizations. One assumes a stable environment, and relies, for the most part, on what is already known, and the other sets forth as a priority the ongoing development of plausible explanations (stories) of its environment.

In autopoietic organizations, “Newness [is played up]. . . . What’s new is the context . . . . What’s new is a premium on updating [our explanations or stories of the system’s context or environment]” (Weick, 2001, p. 94). Through circular flows of information, previous experiences with the environment are validated, and the organization benefits from lessons learned, or previous experiences are reworked or updated "in relation to unanticipated ideas that are conceived, shaped, and transformed under the special conditions of a current performance” (Weick, 2001, p. 97). This flexible treatment of previous experiences is about “making something [new] out of previous experience, practice and knowledge” (Weick, 2001, p. 97), and can only be accomplished through ambivalent treatment of current experiences.
The variety and complexity of stories that are available to the system are its resources for managing flux in the environment, resilience and viability. The challenge, however, is this new way of working for workers who have been enculturated in the mechanistic wellspring of American culture. In mechanistic organizations, managers think and workers do. According to Tannen (1998), Americans regard doubt as “synonymous with intellectual inquiry, a sign of intelligence” (p. 273). However, rigid roles in the workplace “disable” and “cow” many; paralyzed by roles, many do no participate; fearful, many offer only the meekest agreement (Senge, 1999, xvii-xix).

As a result, a role for which organizational leaders should be held accountable is establishing ambivalence as a system-wide priority and a new way of working in the complex, dynamic environment of the 21st century. The goal, in the words of Weick et al. (2005), is system-wide “acting thinkingly” (p. 412); that is, members simultaneously use trusted frameworks to interpret experience, “yet mistrust those very same frameworks by testing new frameworks and new interpretations” (p. 412). By “legitimizing doubt,” or circulating an attitude of ambivalence in the workplace (Weick, 2001, pp. 91-102), leaders position organizations for ongoing sensemaking, in contrast to the set-in-stone decision making that typifies mechanistic organizations. Leadership practices that foster system-wide ambivalence, sensemaking, creativeness, and resilience include:

1. A mixture of puzzlement, ambivalence, and honesty. Autopoiesis assumes a world that is unknowable and unpredictable. In this kind of world, a world that unfolds, leaders approach life “from a creative as opposed to reactive view” (Senge, 1990, p. 141).

2. Admitting when they don’t know. Talking about ambivalence “may open people’s minds somewhat, but actions always speak louder than words” (Senge, 1990, p. 173). There’s nothing more powerful that leaders can
do to legitimize doubt, foster acting thinkingly, and nurture ambivalence than admitting, “We don’t know.”

3. Saturating the organization with the question *What is new?* by articulating it as a guiding principle for interpreting and responding to the environment; designing processes that engage a diversity of perspectives; and developing people on this new way of interpreting and responding to the environment.

**Discussion and Conclusions**

The terrorist attacks on September 11, 2001, and other major human-made national disasters (for example, the *Columbia* and *Challenger* accidents) have been attributed to institutional failures, with no explanation of the ways in which individuals were responsible and accountable for these events. This approach is easier to understand when we take into account the mechanistic view that informs every aspect of our lives, including how we think about and manage organizations. Mechanistic organizations standardize the way in which individuals are to contribute on a day-to-day basis. Through practices such as policies, procedures, position descriptions, and disciplinary and reward programs, behavior is habitualized, thickened, and hardened (Berger & Luckmann, 1966, p. 59), attaining such a firmness in practice and consciousness that it is assumed that this is the only way things can be done. This way of doing things “becomes real in an ever more massive way and it can no longer be changed so readily” by individuals (Berger & Luckmann, 1966, p. 59). In our institutions, a world of habituated thoughts and actions, it appears that only the massive workings of the institution can be held accountable for failures when they occur.

Mechanistic practices, however, are being challenged. Assuming they reside in stable environments that have minimal impact on day-to-day organizational operations, mechanistically-structured organizations have institutionalized routine
practices as a way of fostering organizational stability and viability. Increasingly, however, there is a recognition that technology is creating dynamic, ever-changing organizational contexts that cannot be sufficiently theorized, or responded to, by mechanism.

With Bertalanffy’s application of an open system’s approach to organizations in the mid-1950s, many developments in organizational theory have been built on the principle that organizations, like organisms, must achieve appropriate relations with their environments if they are to survive. To date, however, many of the advances have occurred in the theorizing of organizations as autopoietic systems, while practical applications of open systems theory continue to focus on mechanistic controls. We find this, for example, in the 9/11 Public Hearing Transcripts. The two dominant recommendations by witnesses for deterring future terrorist attacks on the U.S. homeland focused on controlling performance by reorganizing the Intelligence Community and implementing a rigid performance management system.

Advocates of autopoiesis encourage a different view of the world, one that recognizes that organizational resilience requires not only a view of the dynamic environments within which 21st century organizations reside, but also a new way of working within this context. Suggestions that align practices with a view of organizations as autopoietically-structured systems include:

1. Saturating the organization with self-referential principles to guide action that supports the viability of the systems identity and integrity.
2. Loosening the controls on engagement, participation, and action and holding individuals accountable for viability of the system.
3. Fostering ambivalence in the workplace.

These suggestions, moreover, are not new concepts to organizational practitioners who follow organizational theory. Efforts to implement these suggestions in organizations include the development of mission, vision, and value
statements; the implementation of cross training and job rotations; and the use of task forces. But the temptation to control people and activities is difficult to resist. For example, in one organization where a cross-functional team was established to implement an institution-wide financial system, members were assigned full-time to the project but were given dual reporting relationships to both the project manager and the director of their functional areas. These reporting relationships made it difficult throughout the life of the project for members to support decisions that were in the best interest of the institution, rather than their functional areas. This spotlights the current challenge of 21st century organizations. To tap into the potential that autopoiesis offers organizational practitioners, new views of the world, organizations, and leadership roles and responsibilities are needed.

Given the fear of relinquishing control, a fundamental concept of mechanism, it is unlikely that managers are willing to convert immediately to a new way of managing that involves relinquishing familiar controls. However, advances in building organizational resilience can be achieved by focusing on lessening the controls that dominate current practices and infiltrating current practices with those that are informed by autopoiesis. This can be done by holding leaders accountable for identifying and realizing opportunities for developing system-wide consciousness, loosening controls, and fostering ambivalence. Questions that can be used by leaders to infiltrate organizations with autopoietic practices include:

1. How, and where, can I make ever-present a few self-referential principles for guiding individual actions?
2. Where can I pilot a program that broadens the knowledge base and participation of organizational members?
3. Where can I facilitate circular flows of information that allow for updating of experiences and diversity of perspectives?
4. On what projects, with what teams, can we instill ambivalence as a part of our processes? Are we always asking: What don’t we know? What mental models are constraining our perspective? What other mental models can we apply to this experience? What is new? What is unusual? What seems unimportant? What doesn’t feel right?

Leaders, actively engaged in the creation of system-wide consciousness, “heedful interrelating” (Weick & Roberts, 1993, pp. 357-381) and “acting thinkingly” (Weick et al., 2005, p. 412) can leverage efforts to build system-wide accountability and organizational resiliency.

A challenge for leaders, however, is to step outside their current sensemaking processes and structures. One way to address this challenge is to interject alternative perspectives and language into the organization’s sensemaking processes. For example, mechanistic organizational structures such as functional silos and rigid performance systems are constructed in feminist theories as masculine structures that serve to homogenize the workforce, centralize control and power, and constrain the participation and contributions of many of its employees. Injecting the perspective and voice of feminist theory into sensemaking processes can foster an ambivalent view of our current interpretations and responses to the environment, as well as our processes for generating this stock of knowledge.

Diverse perspectives, when they are part of an organization’s sensemaking processes, create opportunities to build the variety of knowledge, skills, and abilities that is requisite for systems that reside in complex, dynamic environments. It is important to keep in mind, however, that the autopoietic sensemaking model presented in this dissertation is not a transmission model of communication. Therefore, the intent is not a one-way street of communication where various theories inform organizational practice. True to the theory of autopoiesis, the intent is to inject the voice and perspective of scholarship (e.g., feminism, autopoiesis) into
organizational sensemaking practices where, through circular flows of communication and heedful inter-relating, each informs and is informed by the other. For example, research on autopoietic systems from the field of biology informs, and is informed by, the sensemaking practices of organizations guided by the spirit of autopoiesis. In this way, learning opportunities are created that enrich individuals, the system, and the scholarship informing them. Creating a complex, dynamic, intelligent system, for the purpose of building system-wide accountability and resilience, is the unique responsibility of leaders. For this, leaders should be held accountable.
References

Staw (Eds.), Research in organizational behavior (pp. 263-295). Greenwich,
CT: JAI Press.


Axley, S. R. (1984). Managerial and organizational communication in terms of the

Carolina Press.

Interdisciplinary approaches to human communication (pp. 155-173).

Rochelle Park, NJ: Hayden.

Doubleday.


(Eds.), Interdisciplinary approaches to human communication (pp. 135-153).

Rochelle Park, NJ: Hayden.

Bruemmer, R. J. (1992). Intelligence community reorganization: Declining the

Prentice-Hall, Inc.


C. Arnold & J. Bowers (Eds.), *Handbook of rhetorical and communication theory* (pp. 659-713). Boston: Allyn & Bacon.


Weick, K. E. (2001). Leadership as the legitimation of doubt. In W. Bennis, G. M. Spreitzer, & T. G. Cummings (Eds.), *The future of leadership* (pp. 91-102).


Appendices
Appendix A: Dates of 9/11 Public Hearings and URLs for PDF Records

The first public hearing:3


The second public hearing:


The third public hearing on “Terrorism, Al Qaeda, and the Muslim World”:  


The fourth public hearing on “Intelligence and the War on Terrorism”:


The fifth public hearing on “Emergency Preparedness”:


The sixth public hearing on “Security and Liberty”:


The seventh public hearing on “Borders, Transportation, and Managing Risk”:


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3 Dates and titles for the 9/11 Public Hearings were taken from the official website of the National Commission on Terrorist Attacks upon the United States (http://www.9-11commission.gov/hearings/index.htm). No titles were given to the first and second hearings.
Appendix A: (Continued)


The eighth public hearing on “Counterterrorism Policy”:


The ninth public hearing, with testimony from Dr. Condoleezza Rice:


The tenth public hearing on “Law Enforcement and the Intelligence Community”:


The eleventh public hearing on “Emergency Response“:


The twelfth public hearing on “The 9/11 Plot” and “National Crisis Management”


Appendix B: Members of the National Commission on Terrorist Attacks upon the United States

Thomas H. Kean, Chair
Lee H. Hamilton, Vice Chair
Richard Ben-Veniste
Fred F. Fielding
Jamie S. Gorelick
Slade Gorton
Bob Kerrey
John F. Lehman
Timothy J. Roemer
James R. Thompson

Joseph M. Cleland (Hearings 1-4, resigned December 2003)
Appendix C: List of Witnesses Cited in this Document

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Richard Armitage</td>
<td>Deputy Secretary of State</td>
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<tr>
<td>John Ashcroft</td>
<td>Attorney General</td>
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<tr>
<td>Zoe Baird</td>
<td>Markle Foundation</td>
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<tr>
<td>Stewart A. Baker</td>
<td>former General Counsel, National Security Agency</td>
</tr>
<tr>
<td>William P. Barr</td>
<td>former Attorney General of the United States</td>
</tr>
<tr>
<td>Michael R. Bloomberg</td>
<td>Mayor, City of New York</td>
</tr>
<tr>
<td>Steven Brill</td>
<td>Author, <em>After: How America Confronted the September 12 Era</em></td>
</tr>
<tr>
<td>Daniel Byman</td>
<td>Georgetown University</td>
</tr>
<tr>
<td>Mike Canavan</td>
<td>former Associate Administrator for Civil Aviation Security, FAA</td>
</tr>
<tr>
<td>Richard Clarke</td>
<td>former National Counterterrorism Coordinator, NSC</td>
</tr>
<tr>
<td>Jon Corzine</td>
<td>Senator, New Jersey</td>
</tr>
<tr>
<td>John M. Deutch</td>
<td>former Director of Central Intelligence and Deputy Secretary of Defense</td>
</tr>
<tr>
<td>Gerald Dillingham</td>
<td>Director, Civil Aviation Issues, General Accounting Office</td>
</tr>
<tr>
<td>Bodgan Dzakovic</td>
<td>Civil Aviation Security Inspector, Transportation Security Agency</td>
</tr>
<tr>
<td>Mamoun Fandy</td>
<td>United States Institute of Peace</td>
</tr>
</tbody>
</table>

4 The titles listed for witnesses cited in this document were taken from the 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks upon the United States (National Commission, 2004). Each title suggests the role that the Commissioners expected the witnesses to assume during the Hearings, and the expertise each was to provide.
Appendix C: (Continued)

Mary Fetchet    Voices of September 11
Glenn Fine      Inspector General, U.S. Department of Justice
Cathal L. Flynn former Associate Administrator of Civil Aviation Security, FAA
John Gannon     Staff Director, House Select Committee on Homeland Security
Jane Garvey     former Administrator, Federal Aviation Administration
Mark Gasiorowski Louisiana State University
Porter Goss     Representative, Florida
Bob Graham      Senator, Florida
Rohan Gunaratna Institute for Defence and Strategic Studies, Singapore; author of *Inside al Qaeda, Global Network of Terror*
John J. Hamre   former Deputy Secretary of Defense
Jane Harman     Representative, California
Brian Jenkins   RAND Corporation
Murhaf Jouejati George Washington Institute
Richard Kerr    former Deputy Director of Central Intelligence
Mindy Kleinberg, September 11 Advocates
Randy Larsen    Institute for Homeland Security
Frank Lautenberg Senator, New Jersey
Joseph Lieberman Senator, California
John MacGafin   former Associate Deputy Director of Operations, Central Intelligence Agency
Claudio Manno   Assistant Administrator for Intelligence, Transportation Security Administration
James May      Air Transport Association of America
Appendix C: (Continued)

John McCain  Senator, Arizona
Mary O. McCarthy  former National Intelligence Officer for Warning
Kenneth Mead  Inspector General, Department of Transportation
Jose E. Melendez-Perez  Inspector, Customs and Border Protection, Department of Homeland Security
Judith A. Miller  former General Counsel, Department of Defense
Norman Mineta  Secretary of Transportation
Robert Mueller  Director, Federal Bureau of Investigation
Nancy Pelosi  Representative, California
Stephen Push  Families of September 11
Magnus Ranstorp  University of St. Andrews
Janet Reno  former Attorney General
Condoleezza Rice  National Security Advisor
Marc Rotenberg  Electronic Privacy Information Center
Mary A. Ryan  former Assistant Secretary for Consular Affairs
Mary Schiavo  former Inspector General, Department of Transportation
James R. Schlesinger  former Director of Central Intelligence and Secretary of Defense
Stephen J. Schulhofer  New York University
Charles Schumer  Senator, New York
Christopher Shays  Representative, Connecticut
Richard Shelby  Senator, Alabama
Craig Sincock  United States Army (retired)
Abraham D. Sofaer  Hoover Institution
Appendix C: (Continued)

James B. Steinberg  The Brookings Institute and former Deputy National Security Advisor, 1996-2000

George Tenet  Director of Central Intelligence

Larry D. Thompson  former Deputy Attorney General

Peter F. Verga  Principal Deputy Assistant Secretary for Homeland Defense, Department of Defense

Harry Waizer  survivor, Cantor Fitzgerald, LP

Michael Wermuth  RAND Corporation

Randall Yim  Director, National Preparedness Team, General Accounting Office

James Ziglar  former Commissioner, Immigration and Naturalization Services, Department of Justice

Commission Staff cited in this Document

Philip Zelikow (Executive Director)

Susan Ginsburg

John Raidt
About the Author

Sandra Cooper received a Bachelor’s Degree in English education from Florida Atlantic University in 1972 and a Master's Degree in Communication from the University of South Florida in 1985. She has twenty-five years of experience as a teacher, communications trainer, and organization development consultant. Her experience includes teaching English in the Florida public school system, teaching English as a Second Language in Saudi Arabia and the Netherlands, conducting management training for public, private, and not for profit organizations both in the United States and abroad.

From 1989 – 2005, Ms. Cooper served as Director of Organization Development and Training at the University of South Florida (USF) where she enrolled in the Ph.D. program in the Department of Communication, College of Arts and Sciences. Since May 2002, her work has focused on directing, managing, and facilitating special assignments in the areas of organizational and human resource development at USF.