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**TOWARD A FORMAL CONCEPT OF BOUNDARY:  
TESTING EMERGING THEORY AGAINST  
TWO PUBLIC ADMINISTRATION CASES**

by

Alexis Ann Halley

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A Dissertation Presented to the  
FACULTY OF THE SCHOOL OF PUBLIC ADMINISTRATION  
UNIVERSITY OF SOUTHERN CALIFORNIA  
in Partial Fulfillment of the  
Requirements for the Degree  
DOCTOR OF PUBLIC ADMINISTRATION

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**For My Parents, Who Made It Possible  
and  
To the Memory of My Sister, Patricia**

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**TOWARD A FORMAL CONCEPT OF BOUNDARY:  
TESTING EMERGING THEORY AGAINST TWO  
PUBLIC ADMINISTRATION CASES**

**ABSTRACT**

This dissertation explores boundary as a formal concept, and especially how it could link public administration theory and practice. The need to craft boundary as a concept is rooted in conceptual dissatisfaction with two experiences in which the author was a principal actor, each seeking to develop a boundary role through a boundary spanning mechanism: (1) a National Academy of Public Administration study of congressional oversight, *Beyond Distrust: Building Bridges Between Congress and the Executive*, and (2) a bipartisan, bicameral, in-service leadership development effort—the John C. Stennis Congressional Staff Fellows program of the Stennis Center for Public Service.

The dissertation develops a grounded formal (as opposed to substantive) concept of boundary. Library materials from physical and social sciences and the professions were analyzed for use of the concept “boundary.” Literature in administrative theory and behavior was analyzed in greater depth. The resulting boundary categories and relationships are then tested against the two case studies where boundary emerged as an undeveloped concept.

The main finding is that boundary is an important concept in many disciplines. It is well developed in the physical sciences and in the social and behavioral sciences, including business administration, but it is less well developed in public administration. For purposes of an interdisciplinary study of boundary, there are essentially two basic concepts: boundary foundations and boundary dynamics (which includes boundary spanning).

A synthetic understanding of boundary spanning organizational behavior is proposed for organizational boundary systems. The conclusion is that boundary is a fruitful unit of analysis and action to get at some of the central problems of designing interlocking roles and mechanisms for public administration in the case studies. Recommendations to develop greater sophistication with respect to boundary are offered.

## Part I

### INTRODUCTION:

#### ORIGINS FOR BUILDING A FORMAL CONCEPT OF BOUNDARY

"Margins of political discourse" are those border zones or crossroads where attentiveness and creative initiative intersect and where issues of order and disorder, meaning and non-meaning must be continually renegotiated. Participating in this negotiation means to be a marginalist or *Grenzganger*, a person habituated to crossing back and forth between self and other, between home and abroad (Dallmayr, 1989, pp. ix-x)."

"Most of the institutions of our political system and many of the policies still dominant were created to deal with problems of decades past—of early industrialization or of early attempts to protect the environment solely by regulation, for example. It is time to explore new perspectives, new theories, new language, and new strategies of action (Kirlin, 1994, p. 28)."

#### Introduction to Part I

The origins and main point of departure for this inquiry into the concept of "boundary" are empirical: two interventions in which I had a primary responsibility and which have left me with significant conceptual concerns. Chapter 1 describes and contrasts the two interventions as an experiential foundation for the dissertation. It explains why, in each case, I reached a point of dissatisfaction. Also, it shows how that discomfort led me to suggest that, at a deeper level, a common puzzle underlying the two cases was the concept of "boundary" and the role of public administration as a discipline which actively sets out to create and "administer" various boundaries. The cases used the term "boundary" either explicitly or implicitly in reference, for example, to setting limits or crossing over assumed "this far and no further" rules, norms, beliefs, or habits. They also illustrated some broad theoretical issues and thus prompted this inquiry into "boundary" as a formal (as opposed to substantive) concept.

Chapter 2 states the research questions and describes the methodological framework of the study, including the importance and relevance of concept

development in an ongoing program of learning. It situates the inquiry in a methodological frame of reference that links the cases described in Chapter 1 to the dissertation and to what might follow the dissertation.

Throughout Part I, the critic may be yearning for a good definition of the term "boundary." Developing such a definition is the whole purpose of this dissertation. The aim of Part I is to set the stage, to show where the idea came from, and to show how pursuing a formal concept of boundary is a logical extension in my program of research and consultation. For that reason, boundary is used in a preliminary, searching way in Part I, to show just how important it might be to have a more fully developed lexicon, a grammar, a set of categories, within which to couch use of the term.

## CHAPTER 1

### EMPIRICAL POINTS OF DEPARTURE

*"Learning from experience is the process whereby human development occurs. . . . Knowledge is continuously derived from and tested out in the experiences of the learner (Kolb, 1984, pp. xi, 27)."*

*"When someone reflects-in-action, he becomes a researcher in the practice context. He is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. . . . He does not keep means and ends separate but defines them interactively as he frames a problematic situation (Schon, 1983, p. 68)."*

*Whatever art or knowledge a man gets by any external means is not his own, does not intrinsically belong to him; it is only those things evolved out of his inner being that he can truly claim as his own (Suzuki in Anderson, 1990, p. 218)."*

Two cases in my experience prompted this inquiry into a formal concept of boundary: a study of congressional-executive relations that I co-directed at the National Academy of Public Administration (1989-1992) and the design and delivery of a unique leadership development program for senior congressional staff in the U.S. Congress that I direct for the John C. Stennis Center for Public Service (1993 to present). These two cases are the origins that motivated me to "see" or develop more deeply the notion of boundary in its own right. Chapter 1 provides a synopsis of each case and a description of my conceptual dissatisfaction with how effectively I was able to understand what was happening in each case and how that limited understanding led, in my judgment, to less effective practice on my part. Following that, the chapter describes where and how, in each case, I began to see a concept of boundary emerge as a potentially fruitful line of investigation that might address, at least in part, my conceptual dissatisfaction. After thus describing each of the two cases, I visit them again, this time to identify some theoretical issues the cases pose for public administrative theory, when they are viewed from a conceptual orientation of boundary. Throughout, the indulgence of the critical reader



seeking an opening definition of the term boundary is sought. Developing such a definition is the whole purpose of this dissertation. The present chapter explains how the search for that definition is rooted in my professional practice.

## 1.1 THE BOUNDARY BETWEEN CONGRESS AND THE EXECUTIVE BRANCH

The first experience that led me to undertake this conceptual dissertation project is my research on the nature, motivations, and effects of congressional oversight and congressional micromanagement of the executive branch, conducted at the National Academy of Public Administration (NAPA).<sup>1</sup>

### Synopsis of the NAPA Research

Two publications—*Beyond Distrust: Building Bridges Between Congress and the Executive* (NAPA, 1992), and the companion *Who Makes Public Policy? The Struggle for Control Between Congress and the Executive* (Gilmour & Halley, 1994)—document the results of a three-year study of the congressional-executive relationship (i.e., the nature of the boundary between Congress and the executive branch) in the policy process. Robert Gilmour and I wrote *Beyond Distrust* for a bipartisan NAPA panel chaired by former House Budget Chairman James R. Jones. In *Who Makes Public Policy?* Gilmour and I present

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<sup>1</sup>The National Academy of Public Administration was created in 1967 as a nonprofit, nonpartisan, collegial organization. In 1984, the Academy was chartered by Congress in P.L. 98-257 to examine more systematically the fundamental and immediate changes underway in the public sector, and to identify their implications for sound governance and effective, efficient, economical, and accountable public management in all governments and government agencies. Work of the Academy is mandated by Congress or requested by executive and judicial agencies at all levels of government. The distinctive competence of the Academy is its membership. It consists of more than 400 current and former Cabinet officers, members of Congress, governors, mayors, legislators, jurists, business executives, public managers, and scholars who have been elected as Fellows because of their distinguished practical or scholarly contributions to the nation's public life. The products of the Academy (from studies, standing panels, meetings, conferences, etc.) represent the views of the participants and not necessarily the Academy as an institution. Rarely does the Academy as a whole take a formal position.

the ten case studies in domestic, defense, and foreign policy, and the cross-case analysis that were used as evidence by the panel, in addition to its collective expertise, in reaching its conclusions and recommendations outlined in *Beyond Distrust*. Table 1 is a synopsis of each of the ten cases.

The central study questions in the NAPA work were: (1) How, why, and with what results does Congress intervene in the administrative details of specific policy issues and programs? and (2) What are the appropriate roles for congressional and executive participation in the implementation of federal policies that will most effectively define those policies and deliver government services while preserving the principles of the American constitutional framework? My role in the research was that of project co-director for the overall inquiry (across the ten cases) and principal investigator for two of the domestic policy cases (health and environment).

Substantively, the panel found that policy development and program implementation processes and results at the boundaries between Congress and the executive branch were complex and paradoxical and defied one-sided (i.e., all Congress, or all executive branch) conclusions. In essence, the panel's central conclusion was that, contrary to widely held views, difficult situations were often improved as a result of congressional intervention; yet, in the panel's judgment, neither Congress nor the executive branch was strengthened institutionally, nor was the overall decision-making system improved. The panel also viewed most of the problems identified in the case studies as consequences of failures in both branches to recognize and adjust to a changing external environment that they thought had been evolving over the past half-century.

Methodologically, the study was in the critical versus the positive or interpretive mode (e.g., Denhardt, 1984; Argyris et al., 1985; White, 1994). The

**TABLE 1.**  
**ABBREVIATED CONCLUSIONS FOR TEN CASE STUDIES OF CONGRESSIONAL INTERVENTION IN ADMINISTRATIVE DETAILS IN *BEYOND DISTRUST* PANEL REPORT**

<b>Case Study</b>	<b>Abbreviated Conclusion</b>
Traffic Alert and Collision Avoidance System (transportation)	Congressional interventions significantly accelerated TCAS implementation. The FAA as a whole became vitally concerned with implementing TCAS. After a period of time, Congress loosened the deadlines and restored limited discretion to the FAA.
Highway Demonstration Projects (transportation)	Demonstration projects are a potentially huge commitment to future spending for a highway system that for all practical purposes is complete. They provide seed money for projects that can distort state priorities. Committee leaders use them as bargaining chips to form coalitions to achieve (other) policy goals.
High Level Nuclear Waste Disposal (energy)	Congress demonstrates little incentive to formally investigate how the program is being implemented. Instead, it relies on newly created agencies (e.g., Nuclear Waste Technical Retrieval Board) and more established agencies to oversee and check the progress of DOE. Congress has moved into a period of passive oversight.
Hazardous Waste Disposal (land ban) (environment)	EPA met the draconian congressional deadlines and was empowered by Congress to do so. Relations among EPA, OMB, and industry were realigned into a common interest to promulgate alternative regulations on time. Heavy toll on human resources in EPA, and institutional anguish that Congress had to resort to such specific language to ensure implementation.
Prospective Payment System for Hospitals under Medicare (health)	To achieve savings in budgetary outlays, PPS (health policy) was shoved into the budget reconciliation process, thus enabling both branches to avoid confronting broader, next generation health policy issues. Congress reclaimed much of the discretion it granted to the Executive Branch to implement PPS. The Prospective Payment Assessment Commission emerged to supply some of the neutral competence once provided by HCFA and OMB. The preponderance of policy information capacity shifted to Congress, as OBRA (1990) had the effect of making ProPAC a congressional agency.
Department of Energy's Cleanup of the Defense Nuclear Weapons Complex (energy/defense)	Congressional intervention brought more funding and programmatic focus for the cleanup effort and increased public and media attention on environmental problems at DOE facilities. Congressional controls have also been a management burden; some operate to inhibit DOE from taking a broader view of the program. Widespread distrust exists on DOE's funding estimates, deadline projections, and schedules. The current

TABLE 1 (continued).

Case Study	Abbreviated Conclusion
Department of Energy's Cleanup of the Defense Nuclear Weapons Complex (continued)	congressional-executive relationship is in a period of interbranch cooperation; however, a classic interbranch pork-barrel fight appears to be brewing to set priorities for what sites should be cleaned up first.
Advanced Medium Range Air-to-Air Missile (defense)	Congressional intervention delayed the government's purchase of unperfected missiles; reduced annual spending outlays; and encouraged the Air Force to place a higher priority on program management. The Air Force's preoccupation with meeting its program goals severely compromised the service's integrity and damaged Air Force morale. Distrust between the branches increased as the case unfolded, largely as a consequence of the Air Force's overoptimistic reports and misinformation to Congress.
Goldwater-Nichols Reorganization of the Department of Defense (defense)	Congress brought about important reforms in defense organization and management without the full support and cooperation of the Executive Branch, which was divided on the issue. The Act made Congress a stronger, more active player in defense organization and process issues while strengthening the DOD in management effectiveness, possibly at Congress' expense in exercising control of the department's programs.
Foreign Aid and Human Rights (foreign affairs)	The most visible result has been institutional development: a House Subcommittee on Human Rights and International Organizations; a congressional Human Rights Caucus; the emplacement of staff positions in both branches concerned with human rights policies abroad. Human rights is now more prominent in U.S. foreign policy debates. Informal communication between staff in both branches shape day-to-day policy implementation. Reporting requirements produce a peculiar form of legislative-executive consultation.
Foreign Military Arms Sales (foreign affairs)	If Congress did not participate selectively in individual arms sales decisions, it could have no meaningful role in foreign military sales policy. The two branches have worked out procedures for effective interaction. Interbranch relations are more a partnership shaped by mutual faith in procedures than by formal authority. However, there is still no coherent national arms sales policy.

Source: National Academy of Public Administration (1992). Beyond Distrust: Building Bridges Between Congress and the Executive. Washington, DC: NAPA.

ultimate purpose of the *Beyond Distrust* report is to make recommendations to improve the results of the congressional-executive public policy interaction. The overall design of the research was descriptive, involving a multiple case study data collection design and a panel of experts approach to data analysis.

### **Conceptual Dissatisfaction**

The need to replace old concepts with new frameworks was one primary reason why the NAPA study extended at least a year beyond the two years originally anticipated. Throughout the study, but especially when the full body of evidence was assembled, the panel was caught in a difficult web of trying, at once, to preserve traditional congressional-executive roles and to create new roles at the interface(s) between the branches. Often, both panel and staff found they lacked an adequate conceptual language to engage in such redesign. Many found themselves questioning extant mental maps and models used to make sense of congressional oversight and the accompanying congressional-executive relationship (e.g., simple aphorisms of the like “the executive proposes, Congress disposes,” or “congressional oversight begins after a bill becomes law”). In part, this was due to the fact that relevant literature in public administration is quite limited when it comes to the role of Congress, to the role of public administration in Congress, or even to the congressional-executive relationship (e.g., Heaphey, 1975; Pontius, 1984). In part, it was due to the fact that whether we looked to political science, public administration, public policy, public management, or business management, the “right” words to capture what we were observing were hard to come by.

Gilmour and I struggled continually with conceptual language issues. How did congressional oversight, congressional micromanagement, and administrative discretion differ? We struggled with what unit and level of

analysis would anchor our inquiry. Was the unit of analysis Congress? Was it the congressional committee? Or was the unit of analysis the congressional-executive relationship? Was the level of analysis institutional? Or was the level of analysis congressional committee-presidency-executive agency? We struggled with Lowi's typology of policy types (1971), and eventually concluded, with reluctance, that most of the ten cases were a mix of several Lowi types, and therefore his typology would not help to differentiate one case from another. Ultimately, we concluded that the unit of analysis was the congressional-executive relationship, but that "anchor" was constantly slipping—more a buoy than a sea anchor—and ultimately still unsatisfactory. Something was missing.

Searching for common patterns across the ten case studies, the panel and the research team were again confronted with the lack of conceptual language that would capture both the themes in the cases and develop a bold set of panel conclusions and recommendations. The evidence in the ten case studies defied received wisdom (i.e., the idea that Congress intervenes in the details of administration to expand its power), and the panel's, by no means unanimous, deeply held convictions, strong feelings, and high ideals. Gradually, the absence of adequate conceptual language—adequate concepts—itsself became a finding and a recommendation. In *Beyond Distrust*, the panel asserted:

The nation is in an era in which familiar labels are no longer descriptive and conventional wisdom provides limited guidance (p. 88).

New models of organization and management practices are needed within and between Congress and the Executive Branch (p. 93).

The panel believes it is time to find concepts and devices to enter a new phase of history—a phase in which cooperative management of our central government is functional and responsibility becomes paramount (p. 96).

Given the overall inadequacy of concepts and devices, a second difficulty was to locate a theory within which panel recommendations might be crafted. An unspoken but implicit rationale for the study (i.e., before launching it) was the view that Congress was "the culprit," that Congress needed to reorganize so as to get out of the details of administration, and that the case studies, however selected, would provide strong evidence for that conclusion. This would have continued a tradition at the Academy of taking positions to free federal managers from the constraints of laws, rules, and regulations (e.g., see NAPA, 1983). From the outset, there was little, if any, expectation that the Executive Branch, including the Office of the President, would be implicated. Indeed, the expectation was that the bulk of the recommendations would be targeted to Congress. As it turned out, the architecture of the recommendations as a set adapted a theory advocated by Seidman and Gilmour (1986), though that too was implicit. As a set, they were a carefully crafted combination of "if-then" propositions, generally of the genre "if Congress does x, then the Executive should do y," or "if the Executive does x, then Congress should do y" (see Table 2). These relationships were the main contribution of the recommendations rather than their substance, which was in general not especially original.

A third area of conceptual dissatisfaction was the problem of cross-case integration, or what explanatory concept or metaphor would capture the congressional-executive behavioral patterns observed among the cases (McPhee, 1990). Among the many findings derived from the ten case studies, Gilmour and I discovered that the cases could be used as prototypes to discern what we called "five styles of congressional-executive co-management." Such styles are consistent patterns or habits of behavior that develop between institutions as they define their roles and relationships in the same fashion, under similar conditions (see Table 3). We experienced great difficulty finding

**TABLE 2.**

**ILLUSTRATION OF THE "IF-THEN" OR "BOTH-AND" NATURE OF THE  
PANEL'S RECOMMENDATIONS IN *BEYOND DISTRUST* (read from left to right)**

<del>IF</del> — <del>or</del> — <del>BOTH</del>	<del>THEN</del> — <del>or</del> — <del>AND</del>
A. Bipartisan leadership of both houses should create a joint legislative-executive conference. (R1-1)	▶ (AND) The President and agency heads should support that creation.
B. Congress should support creation of regular, structured, staff-to-staff working groups. (R1-2)	▶ (AND) The Executive Branch should do likewise.
C. Congress should encourage performance-based, citizen/customer oriented program and regulatory demonstrations. (R1-3)	▶ (AND) The President should encourage them as well.
D. (IF) The President, Office of Management and Budget, cabinet councils, and executive departments and agencies define the overriding, long-term issues and problems around which the policy planning process should be structured (and the President ensures bipartisan leadership is consulted in defining these issues and problems) (R2-1)	▶ (THEN) Congress should have the independent capacity to evaluate and modify the presidential agenda and then act on it comprehensively and constructively.
E. The President should further strengthen executive leadership to improve broad policy and program planning. (R2-3)	▶ (AND) Congress should do likewise.
F. (IF) The President, the Office of Management and Budget, and agency leadership . . . build strong planning, budget, financial, and management information capacity throughout the Executive Branch to support effective, performance-oriented program management, and fully implement the Chief Financial Officers Act (R3-1)	▶ (THEN) Congressional committees will have to provide adequate support.



TABLE 2 (continued).

<del>IF</del> — <del>or</del> — <del>BOTH</del>	<del>THEN</del> — <del>or</del> — <del>AND</del>
G. (IF) Each house of Congress strengthens its oversight processes so that they focus on critical policy and performance issues and define an oversight agenda; achieve the benefits of a two-year budget process in which the off-year is devoted to program authorizations and oversight (R3-2)	▶ (THEN) Congress should require accurate, timely, and reliable policy and program information from the Executive Branch and draw from first-hand familiarity with ongoing federally funded operations.
H. Congress should be informed about the extent, consequences, and desirability of all entities that carry out executive functions (R4-1; 4-2)	▶ (AND) The Executive Branch should as well. (R4-1; R4-3)

Source: National Academy of Public Administration (1992). Beyond Distrust: Building Bridges Between Congress and the Executive. Washington, DC: NAPA.

**TABLE 3.**  
**FIVE STYLES OF CONGRESSIONAL CO-MANAGEMENT WITH THE**  
**EXECUTIVE BRANCH LINKED TO TEN CASE STUDIES OF *BEYOND DISTRUST* REPORT**

Case:	Strategic Leader	Consultative Partner	Superin- tendent	Combative Opponent	Passive Observer
Traffic Alert and Collision Avoidance System			√		
Highway Demonstra- tion Projects			√		
High Level Nuclear Waste Policy			√		√
Hazardous Waste Policy (Land Bans)			√		√
Defense Nuclear Weapons Complex Clean-Up			√		√
Prospective Payment System				√	
Advanced Medium Range Air-to- Air Missile			√		
Goldwater- Nichols Reorganiza- tion of Department of Defense	√				
Foreign Aid and Human Rights		√			
Foreign Military Arms Sales		√			

Source: Robert S. Gilmour and Alexis A. Halley (1994). *Who Makes Public Policy?* Chatham, NJ: Chatham House.

an adequate metaphor to characterize the behavioral patterns we observed in the ten case studies. Congressional overseer didn't work; neither did congressional micromanager, intervenor, or even, simply, congressional manager. When we eventually settled on "congressional co-management with the executive branch" as a broad metaphor, and when we distinguished the five discrete styles of congressional co-management, we encountered tremendous resistance, both from the panel (the panel chair refused to include the term in the panel report, especially as a headline) and even from the book publisher (who steadfastly refused to put the term in the title of the book). Though neither Gilmour nor I was completely satisfied with the term "co-management," we were agreed that some new, more descriptive, more distinctive terminology was needed to sharply focus on the interlocking role of both branches throughout the policy process, and that "co-management" was a good place to start.

That being said, though, "co-management" remains an empirical finding, a metaphor lacking adequate, underlying public administration or public policy theory. A new language would be needed to provide understanding of the different approach (i.e., co-management) being developed for the congressional-executive relationship and also to provide legitimacy to new institutional roles, behaviors, and outcomes (Kirlin, 1982). By itself, "co-management by Congress and the Executive" was obviously insufficiently developed, given the strong resistance of both the Academy panel chair, the publisher of the casebook, and others hearing the term for the first time. What then might be a core concept or core idea at the heart of a more fundamental, underlying theory to develop the broad metaphor of congressional co-management with the Executive Branch and the accompanying five styles of co-management?

### "Seeing" Boundaries in *Beyond Distrust*

The *Beyond Distrust* panel report was organized into three main sections. Part I, the introduction, was essentially a statement of the panel's charge, an overview of the study, and a brief review of the literature relevant to the problem. Part II described the evidence the panel considered, principally the ten case studies and a rather weak description of the broad context in which those case studies occurred. Part III, which is really the heart of the report, outlined the panel's conclusions and recommendations.

In its conclusions and recommendations, the panel sought to lay the foundation for a new congressional-executive relationship, a set of concepts and devices that would "build bridges of trust" between the branches. Though each of the chapters in Part III of the *Beyond Distrust* report is an attempt to "build bridges of trust" between the branches, chapter 5 is the only chapter with a chapter title containing the term "bridges," (namely: "build bridges for productive relations between the branches"). Chapter 5 is also distinct in that it is the only chapter containing a term (bridges) which also occurs in the title of the total report. "Bridges" did not, by itself, seem to hold much promise for deeper conceptual exploration, but it was an important clue, so I kept searching.

In late 1994, after completing the inaugural year of the Stennis Congressional Staff Fellows program, and during the process of designing the conceptual framework for the 104th Congress program, I kept returning to the *Beyond Distrust* chapter on building bridges for productive relations between the branches. There, and in a few other places of Part III, I noted recurrence of the term "boundary" when the panel discussed how to repair and rebuild the congressional-executive relationship.

Table 4 (at the end of this chapter) shows nine explicit occurrences of the term "boundary" in the *Beyond Distrust* report. Six of the nine occurrences are

in Chapter 5, building bridges for productive relations between the branches. Two are in Chapter 4, which describes the panel's main overall conclusions; and one is in Chapter 6, which develops the panel's recommendations for Congress and the executive branch to provide leadership for broad planning and policy development. In surveying Table 4, the following literally derived lexicon emerges with respect to "boundaries," in *Beyond Distrust*, namely:

- boundary blurring
- boundary bridging
- respect and preserve boundaries
- boundaries can never be precisely defined either by general rule, law, or judicial decision
- settle boundaries on a case-by-case basis through ground rules, bargaining, and compromise
- channel ideas and innovations across institutional boundaries
- debates over proper boundaries
- organizations to monitor boundaries (e.g., the Joint Legislative-Executive Conference)
- there will always be indistinct boundaries.

Table 5 (at the end of this chapter) shows examples of more implicit occurrences of the notion of boundary in *Beyond Distrust*. It illustrates the idea of drawing "lines" around "how far is proper" for Congress to intervene into the details of administration. It illustrates the idea of boundary blurring applied to apparently distinct conceptual categories (e.g., "politics, policy, and policy making have become inseparable"). Table 5 also highlights the boundary between institutions and a broader context or environment.

Finally, boundary also occurs in the case study book *Who Makes Public Policy* (Gilmour & Halley, 1994). Initial examples, focusing on the Medicare Prospective Payment System case study and on the cross case analysis are displayed in Table 6 at the end of this chapter. These examples add to the lexicon cited above the notion of "geographical boundaries" and Congress setting up institutions and decision-making devices to monitor the location of

those boundaries, typically for cost purposes. The final sentence of *Who Makes Public Policy* also conveys the (undeveloped) idea that changing yet protecting and preserving institutional (and other) boundaries is the core concept beneath the metaphor of congressional co-management with the executive branch.

It thus occurred to me, in the context of my search for a more fundamental concept to underpin congressional co-management with the executive, that the "boundary" metaphor might be worth exploring. What is a "boundary"? What is a non-boundary? What is boundaryless? What is boundary management? What is boundary leadership? How does one "build bridges" at boundaries such as the intersection between Congress and the Executive? What is boundary spanning? Without knowing much about "boundary," (i.e., its essence or *ding an sich*), but using the term rather superficially to reinterpret *Beyond Distrust*, it seemed to me that the panel's main goal throughout its report, but especially in its conclusions and recommendations, was to build a model to describe and to improve the interbranch relationship across the boundaries of Congress, the presidency, and the executive branch. Pushing this idea further, in hindsight, it seemed that what Gilmour and I had done, with our notion of the five styles of congressional co-management with the executive, was to identify empirically five boundary-spanning institutional roles that operate to bridge the Congress-executive branch boundaries. What we now needed was a theory to underpin that empirical finding, one that would develop a much deeper understanding of the notion of "boundary."

## **1.2 THE BOUNDARY BETWEEN THE U.S. SENATE AND THE U.S. HOUSE OF REPRESENTATIVES**

The second experience that led me to undertake this conceptual project is my role as the director of the John C. Stennis Congressional Staff Fellows program, conducted under the auspices of the John C. Stennis Center for Public Service.<sup>2</sup> This role followed the completion of the *Beyond Distrust* study at the National Academy of Public Administration. I regard this second project as a natural extension of the first, especially when it comes to exploring the concept of boundaries.

### **Synopsis of the Stennis Congressional Fellows Program**

In 1993, the Stennis Center for Public Service launched the inaugural John C. Stennis Congressional Staff Fellows program (hereafter program or Fellows program). The program is a unique experience of in-service "executive" development for senior congressional staff. Its mission<sup>3</sup> is to:

1. Enhance the leadership role of senior level congressional staff—to carry out the goals and agendas of Members of Congress and the institution they serve—in a world of rapid change.
2. Recognize and honor current senior level congressional staff members, in the U.S. House of

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<sup>2</sup>The Stennis Center for Public Service is an independent, legislative branch agency created by Congress in 1988 to promote and strengthen public service in the United States and to carry on the commitment to public service exemplified by the former Senator's life and work. The Stennis Center fulfills this mission through: developing leaders in the public service; strengthening congressional staff; and attracting students to the public service. The Stennis Center is governed by a Board of Trustees appointed by the Republican and Democratic leaders in the United States Senate and the United States House of Representatives. It was created, in part, in response to the Volcker Commission, which made numerous recommendations to address the "quiet crisis" in American government: the need to provide leadership for America by rebuilding the public service.

<sup>3</sup>This mission is developed in the conceptual design and program summary I prepared for the Stennis Center for Public Service during the period September 1994 to April 1995.

Representatives and the U.S. Senate, who have demonstrated outstanding leadership and commitment to congressional public service;

3. Encourage among Stennis Fellows a strong commitment to congressional public service dedicated to maintaining the highest standard of a representative national legislature in our system of government.

The program, conducted while Stennis Fellows remain in their jobs, creates a learning infrastructure to:

1. Develop a small, bipartisan, bicameral network of senior congressional staff who are familiar with the new issues and approaches to governance and public service leadership being defined and necessitated by a rapidly changing world, and practised in developing more effective ways of dealing with those realities.
2. Provide a unique forum in which Stennis Fellows identify issues they want to address and then engage in strategic dialogue and constructive debate to re-perceive those issues in the context of the deeper changes underway. In so doing, Stennis Fellows create more effective ways in which staff can serve Members of Congress in addressing immediate issues.
3. Identify and develop the skills senior congressional staff need to become more effective in addressing their issue agenda, thereby better serving Members of Congress and the institution.

Graduates of the program become an ongoing resource and growing network in furthering the mission of the program. The work of each class is a legacy on which future Stennis Fellows can build—to create the new forms of personal leadership, the values, and the institutional designs so essential to governing under conditions of rapid change.

In a rapidly changing world, programs of leadership development, like tools of governing and policy development in general, increasingly require a



process of experimentation involving both action and analysis. Not a “training program” in the sense of putting forth answers, the Stennis Fellows program exists as an ongoing exploration and experience of individual and group development. It focuses the Fellows on areas of public service leadership, governing, and management of the legislative process they identify, where the questions, let alone the answers, are unclear and constantly in flux.

By design, each cohort of Stennis Congressional Staff Fellows (selected for each Congress) is to include up to 24 senior congressional staff who are recognized as leaders by Members of Congress and their peers; have a significant commitment to public service professionalism and to Congress as an institution; are interested in pursuing personal leadership development linked to improving some aspect of Congress as an institution; and collectively represent both parties, both chambers, and personal and committee offices. Stennis Congressional Staff Fellows are nominated by Members of Congress and are selected through a competitive process on the recommendation of a distinguished selection committee.

### **Conceptual Dissatisfaction**

In my capacity as director of the inaugural Stennis Fellows program, I found myself trying to design an experience of what was then couched as “leadership development” for congressional staff. The organization which held the subcontract from the Stennis Center to conduct the inaugural program had the idea that the program should be one that directly imported the language and tools of a leadership program they had designed for mid-level federal managers (GS-14’s and GS-15’s) in the federal executive branch. At the time, the latter program was one heavily oriented to the program designers and instructors “having answers,” foremost of which was the premise that “what is used in the

private sector can and must be used in the public sector." That meant imparting tools such as mission, vision, teamwork, and benchmarking. At the time, that latter premise was absolutely not open to question or discussion.

At the launching of the inaugural Stennis Fellows program, very little time or other resources were allocated to design the program. The idea of forming an advisory group outside the core staff was vetoed. Moreover, any program design had to be tailored to the subcontracting organization as well as to the Stennis Center for Public Service and to the needs of the Congressional Fellows. This proved to be a formidable challenge as the constraints inherent in the subcontracting organization alone were daunting.

The solution was an uneasy acceptance of a proposal I advanced to make the inaugural Stennis Fellows program "an experiment, one in which the designers did not have the answer, one where we would look to defining and addressing issues important to the Stennis Fellows as they defined them." Yet, even in advancing that proposal, I was uneasy from the start as to how well it could be achieved, given the lack of real support on the part of the subcontracting organization and given my own extraordinary uncertainty as to what substantive theory of leadership or learning theory was appropriate for this group, or, more simply, what they wanted or needed. I knew that the inaugural program was going to have to be pretty much invented as we went along and that it needed an action research orientation (e.g., Gardner, 1974; Sherwood, 1979). It became very clear, very soon, that the latter grounding was not shared by my colleagues at the subcontracting organization. To my surprise, it also became clear to me that I was not as grounded in translating the action-research tradition to this circumstance as I thought I was (that is, at key points in the inaugural program, I really did lose sight of the action-research

theory). In any case, by itself, even the action research approach was insufficient to me personally with respect to the Stennis Congressional Fellows.

By way of summary, by the end of the inaugural year, the Stennis Center and I had learned a great deal. The inaugural Stennis Fellows did, in fact, respond quite well to a process that let them set an agenda of issues they wanted to discuss. And a core group from the total group did take the lead in crafting a summary of their deliberations. It was they who expressed a wish that they and the program provide an institutional memory or legacy for future Stennis Fellows with a view toward creating a more effective Congress. In a post-program evaluation conducted by the Stennis Center (16 of 34 Fellows, or 47% responding), most (13 of the 16) rated the program "good to outstanding" on how well it achieved the limited objectives we set. They also suggested numerous helpful suggestions to improve the future program.

My principal discomfort throughout, however, was conceptual. I simply could neither articulate nor locate a crisp, meaningful concept of "staff leadership" or a concept of "public service" I believed to be directly relevant to this audience.

### **"Seeing" Boundaries in the Stennis Congressional Fellows Program**

In the process of debriefing the inaugural Stennis Fellows program (conducting the program evaluation) and having the fortunate opportunity to immerse, in late 1994, in a vast literature in order to design the conceptual framework for the future program, I wondered how the notion of "boundary" might apply to this intervention. Without probing the concept of boundary deeply (yet), it seemed a potentially fruitful metaphor to reinterpret the experience for future program design.

The first source for seeing “boundary” as a concept implicit in the Stennis Fellows program was in the composition of the Fellows group itself. The program design called for a cohort of senior congressional staff who would represent, in fairly equal numbers, some major boundaries: those of party, office (personal and committee), and chamber as well as gender.

The second source for seeing “boundary” as a concept implicit in the Stennis Fellows program lies in looking at the language used by inaugural Stennis Fellows during the program, both in their summary of program deliberations and in the issues they identified and addressed during the inaugural year. Figure 1 shows how their issue agenda developed, over the course of the nine month program—from issues they identified at program start-up to issues as they were reframed and reduced at a mid-point retreat and then in the program summary of deliberations. In their summary of program deliberations (Stennis Center for Public Service, 1994), for example, the Fellows expressed their “concern that the segregation of congressional staff—by chamber, party, and issue—significantly reduces the utility of this major resource in dealing with substantive and administrative problems (on Capitol Hill)” (p. 9). The notion of “boundary” is also implicit in the issue agenda the Stennis Fellows developed as the program unfolded. For example, among the issues Fellows identified at the start of the program were:

- Improve public perception and confidence in Congress and U.S. government (focusing on the boundary between Congress and the public);
- Improve congressional-executive relations (focusing on the boundary between Congress and the executive branch); and
- An issue they described as the need for institutional mechanisms to explore how we (House and Senate congressional staff) can work together more effectively

(focusing on the boundary between the House and Senate, at the staff level).

At the end of the program, in the "summary of program deliberations," Stennis Fellows developed two proposals, both of which were limited devices to increase communication, learning, and understanding across the boundary between the House and the Senate, and across the boundary between congressional staff and Members of Congress. One proposal recommended the design of a mechanism for ongoing, informal learning and dialogue among current and prospective Stennis Congressional Fellows. Their second proposal called for the establishment of a bipartisan, bicameral Congressional Staff Advisory Council to better link congressional staff to Members of Congress in improving congressional operations.

The third way of seeing "boundary" in the Stennis Congressional Fellows program is in terms of the staff leadership role we are trying to develop. It now seems that what we are really after in this program is a concept of leadership that can operate at the boundaries of the U.S. Congress. That is, a concept of public service staff leadership is needed that might enable the Stennis Fellows better to operate at the boundaries within Congress (e.g., among personal offices, among personal and committee offices, among chambers), and at the boundaries among Congress and outside stakeholders (e.g., executive branch, media, constituents, private sector, interest groups, and the like). Figure 2 illustrates this idea.

But what, exactly, is boundary leadership? What values are involved? How is the notion anchored in various literatures? By way of preview, Michael (1993), for example, argues that:

In an information society, the capability to span boundaries appropriately is another key attribute of the new competence. Information technologies have, among

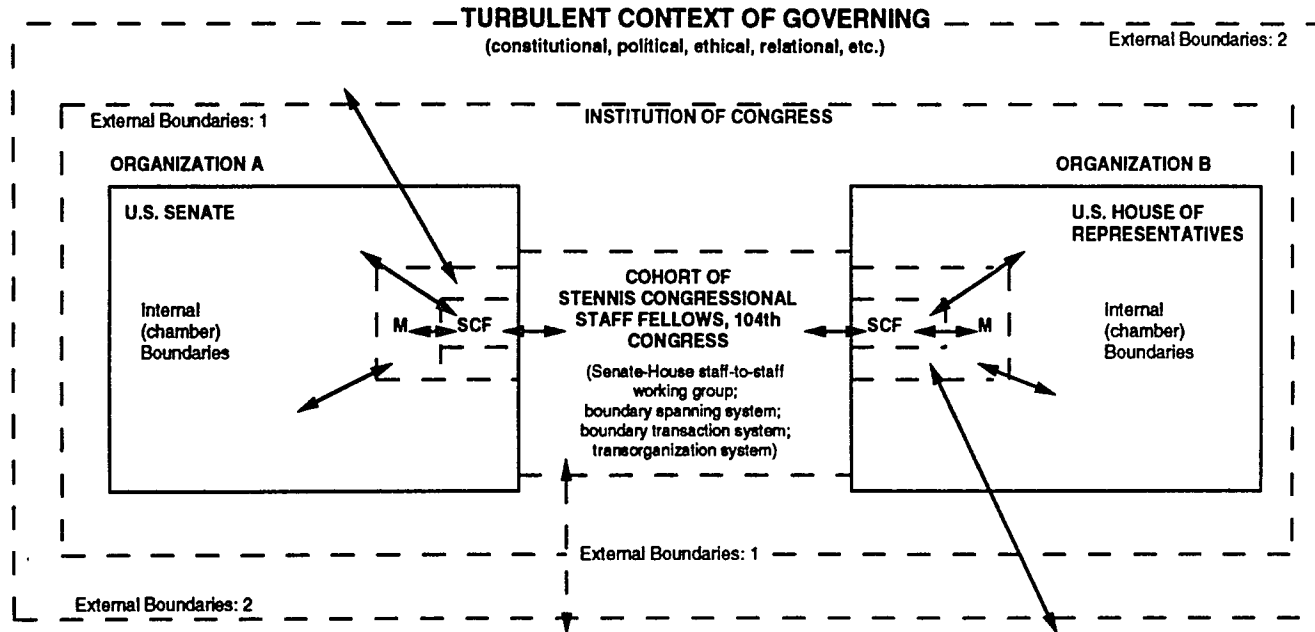
**FIGURE 1.**  
**PROGRESSION OF FELLOWS' ISSUES: INAUGURAL STENNIS CONGRESSIONAL FELLOWS PROGRAM**

At Start of Fellowship	At Mid-Point Retreat	At End of Program
<ul style="list-style-type: none"> <li>• Improve public perception and confidence in Congress and U.S. government</li> <li>• Improve responsibility and accountability</li> <li>• Improve substantive policy objectives and issues</li> <li>• Congressional mission effectiveness (role, identity)</li> <li>• Committee structure and assignments</li> <li>• Staff leadership role / Congressional staff as forgotten public service</li> <li>• How Congress can operate in a more business-like manner</li> <li>• Institutional rules and procedures</li> <li>• Campaign finance / Term limits</li> <li>• Models, elements, means of institutional change</li> <li>• Congress and executive branch</li> <li>• Individual ethics, attitudes, behaviors</li> <li>• How to work together more effectively</li> </ul>	<ul style="list-style-type: none"> <li>• Effectiveness and accountability of Congress as an institution and how change can occur</li> <li>• Learning, dialogue, and consensus mechanisms within Congress</li> <li>• Institutional role of Congressional staff</li> <li>• Nuts and bolts of Congressional office management and management role of congressional staff</li> </ul>	<p>Proposal for ongoing learning, dialogue mechanism among Stennis Fellows (really a proposal to further develop what was already underway)</p> <p><i>(Boundaries among House and Senate congressional staff -- institutional mechanism for staff to learn how to learn at those boundaries; bridge or span party, office, chamber, position)</i></p> <p>Proposal for a bi-partisan, bi-cameral Congressional Staff Advisory Council to be part of the standing leadership and management structure of Congress</p> <p><i>(Boundaries among congressional staff and Members of Congress; Formal institutional mechanism to span those boundaries)</i></p>

**FIGURE 2.**  
**STENNIS CONGRESSIONAL FELLOWS PROGRAM: BUILDING LEARNING CAPACITY AT THE BOUNDARIES**

M=Member(s) of Congress (personal or committee)  
 SCF=Stennis Congressional Fellow

External Boundaries 1: are outside each chamber but still within institution of Congress  
 External Boundaries 2: are outside each chamber and the institution of Congress



Leadership is centrally concerned with the management of boundaries at interpersonal, office / Member, policy, and institutional (including inter-institutional) levels.

In today's turbulent governing context, boundaries –physical, ideological, factual, procedural, institutional, relational, sectoral – are being challenged, disappearing, or are shifting. As a result, the processes and purposes of governing, leading, and managing are compounded and confounded within the U.S. Congress and throughout the U.S. governance system and society.

Through the Fellowship, Stennis Congressional Fellows create a staff-to-staff learning system to explore matters at the periphery or boundary of their office, personal or committee, to develop linkages with staff from other offices, parties, and the other chamber. A concept for this is boundary leadership or boundary management, which is a guiding metaphor for future Stennis Congressional Fellows programs.

their virtues, unlimited boundary-spanning potential. To make use of their capabilities requires judicious application of that boundary-spanning potential. But critical questions about the ethical and operational costs and benefits of boundary spanning in an information society are only beginning to be recognized (e.g., protecting the privacy of information about an individual versus revealing that information in order to protect the public interest.) Appropriately allocating boundaries and cross-boundary flows will require much thought and experiment, much learning what and learning how (p. 85).

Developing a better program design for the Stennis Congressional Fellows program will require a much deeper understanding of the notion of "boundary."

### **1.3 THEORETICAL ISSUES EMERGING FROM THE TWO EXPERIENCES**

#### **Context**

The first theoretical issue underlined by the two cases concerns the importance of the changing context of governance,<sup>4</sup> a context that is characterized by a degree of turbulence that is qualitatively and quantitatively different from that of the past 50 years. In the *Beyond Distrust* report, the panel stated:

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<sup>4</sup>Some of the changes asserted to be fundamental include pervasive effects of the new information and communications technologies such that every industry has to change its mode of organization and its relationship of design to production to marketing (Freeman & Lipsey in Rosell, 1995); multiplying and fragmenting systems of belief and implications for constructing and sustaining societal consensus (Rosell, 1995); the rise and fall of the blue collar worker and the rise of the knowledge worker (Drucker, 1994); and the emergence of knowledge as the key resource such that the standing of the country in the world economy will increasingly determine its domestic prosperity (Drucker, 1994). Another aspect is biological and a perceived need to govern evolution (Anderson, 1987). Drucker (1994: p.53) sums his survey of the epoch with the assertion that "In the developed free-market countries—which contain less than a fifth of the earth's population but are a model for the rest—work and work force, society and polity, are all, in the last decade of this century, qualitatively and quantitatively different not only from what they were in the first years of this century but also from what has existed at any other time in history: in their configurations, in their processes, in their problems, and in their structures. A group of practitioners and academics meeting at the National Academy of Public Administration in 1994 echoed these observations when they identified over 200 elements of change they thought had implications for governance and public administration in the U.S. (NAPA, 1994).



The panel views most of the problems identified in the case studies . . . as the consequences of failures in both branches to recognize and adjust to an external environment that has been evolving over the past half-century (p.69). These powerful and sometimes contradictory forces reflect fundamental and ongoing shifts affecting the purposes, emphases, and methods of legislative-executive relations (p. 79). The panel believes these and other forces in our society are eroding the nation's infrastructure—financial, social, and governmental (p. 80).

Matthew Holden, one of three academic panel members who wrote additional views to the body of the report (views that bordered on dissenting opinions), agreed that the broader context was playing a strong role in driving the behavior observed in the ten case studies. However, Holden thought the panel had not pursued adequately that line of reasoning in developing its overall conclusions and recommendations. The panel had been timid and missed a main explanation for the behavior observed. He argued that:

America's problems do not arise primarily from institutional limitations, but social, cultural, economic, and technological issues that the panel found itself unable to consider, given its initial terms of reference. The report seems to adopt the view that if only presidents and members of Congress would act right, everything would fall into order (p. 134).

Holden is right in noting that the *Beyond Distrust* report took practically no account of the broader context driving many of the changes they observed. But neither he nor the panel really developed a contextualist point of view, the idea that institutions affect context and vice versa.<sup>5</sup>

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<sup>5</sup>Unfortunately, the panel began to step outside the case studies and examine the broader context very, very late in the study, at which point the resources available to pursue that line of reasoning were quite limited. As a consequence, the panel simply included a chapter in the section prior to its conclusions and recommendations, which noted the importance of the broader context as a force and let the panel go a bit beyond the immediate evidence of the ten case studies, which were a point of departure for their broader conclusions and recommendations.

Building, in part, on the *Beyond Distrust* study, the inaugural class of the Stennis Congressional Fellows program examined how the private sector was interpreting and responding to a changing broad context, and then tried to develop implications of that for improving the way Congress and its staff operate. The inaugural Stennis Fellows concluded that better formal and informal linkages among congressional staff, and between congressional staff and Members of Congress, were required to address those broader forces of change. Both cases illustrate the importance of being able to work across boundaries in a time of rapid change. Both cases illustrate that we seldom get much past the assertion that context matters. What public administrative theory tells us what aspects matter and how? What public administrative theory suggests the concepts and practices to take account of the context? Not explicitly developed within either case is the thought that part of what may be changing about the context is the boundary conditions:

The emergence of a global information society is accelerating the pace of change and overwhelming established methods of organizing and governing that were developed for a world of more limited information flow, greater stability, and clearer boundaries" (Rosell, 1995, p. ix).

Among the causes of current plant-wide social turmoil are increased efforts and demands to establish, change, or remove boundaries and of counter efforts to preserve them. More often than in pre-network times, boundaries today (those perceptual arrangements we use to separate or unite, differentiate and connect ourselves to the world) are determined less by material circumstances and more by concepts, relationships, and flows of information in the forms of money or other symbols (Michael, 1995).

The performance and responsiveness of government is troubled because managing that takes boundaries into account has become more difficult. The prescriptions of both the reinventing and the deregulating movements do not fully recognize this reality. And they cannot be

successful without solving the problems that the proliferation of boundaries has created (Kettl, 1994a, p. 177).

### **Leadership**

A second set of theoretical issues raised by the two cases concerns leadership. The Stennis Congressional Fellows program is a "leadership development" initiative. In that program, we learned that staff leadership on Capitol Hill depends on the ability to span, yet preserve, familiar organizational boundaries (e.g., of party, office, chamber). Similarly, the panel's recommendations in the *Beyond Distrust* study make frequent pleas "to" leaders and "for" leadership. The *Beyond Distrust* report emphasizes that its recommendations can be achieved only if leaders in Congress and the Executive Branch make a long term commitment to renewal and reform in the legislative-executive relationship by finding ways to transcend (the boundaries of) partisanship and parochialism. Thus, something akin to boundary leadership, or perhaps boundaryless leadership, is at the heart of both interventions.

The working premise of this dissertation is that the traditional language of leadership is inadequate to describe what is required to lead across the boundaries that separate Congress and the executive branch or the House of Representatives and the Senate. A new concept, such as boundary leadership, or boundaryless leadership, needs to be developed to provide a better understanding of how to create and manage institutions and processes that preserve, yet span, constitutional boundaries.

### **Limitations of Traditional Public Administration**

Both *Beyond Distrust* and the Stennis Congressional Staff Fellows program raise important questions about the limitations of traditional public

administration theory. In each case, there is a need to develop approaches that work across traditional boundaries in the field.

*Moving Beyond the Executive Branch.* First, both *Beyond Distrust* and the Stennis Fellows program suggest that public administration theory cannot be limited to the executive branch. Public administration has a strong and long tradition of focus on administration in and of the executive branch. The tendency to concentrate public administration in executive agencies can be traced to public administration ignoring the work of William Franklin Willoughby, who regarded administration as a universal of all three branches of government, and instead adopting the work of Leonard White who emphasized the executive as the sole subject matter of public administration (Dimock, 1975). Alexander Hamilton, in *Federalist 72*, distinguished the large and small sense of administration:

In its largest sense, the word comprehends all the operations of the body politic, whether legislative, executive, or judiciary. . . . In its most usual and perhaps most precise signification, it is limited to executive details and falls peculiarly in the province of the executive department.

Both *Beyond Distrust* and the Stennis Fellows program illustrate the need to consider administration in its largest sense, and to include, for example, administration in the legislative and judicial branches, and administration at the boundaries between and among the branches (independence through interdependence).

*Moving Beyond the Public Sector.* Second, *Beyond Distrust* and the inaugural Stennis Fellows program raise questions as to whether the scope of public administration should be limited to the public sector. In *Beyond Distrust*, for example, the panel stated:

Executive capacity to do the government's work—from regulation of other people's activities to direct delivery of government services—is an issue that transcends traditional structures of the Executive Branch and Congress. Today, as is well known, executive capacity to perform governmental functions exists within the three branches and in constellations of private and quasi-public entities outside the branches (p. 125).

In the inaugural Stennis Fellows program, a premise was that change in the private sector could be translated to change in Congress. Whether public and private administration are different is an ancient theme with a long tradition of debate (e.g., Fosler, 1986; Rainey, 1991; Wilson, 1887; Allison, 1980), including the question of what is inherently governmental (e.g., GAO, 1992). The two cases raise a need for public administration theory to develop a better concept for working and conversing across the public-private boundary.

### **Learning**

Theoretical issues of adaptation and learning also are raised both by the Stennis Fellows program and the *Beyond Distrust* report. Learning is explicitly at the heart of the Stennis Congressional Fellows program, an effort targeted to building learning capacity among congressional staff.

Learning was not discussed explicitly in the *Beyond Distrust* report, but learning and adaptation are implicit in *Beyond Distrust*. For example, the panel expressed the caveat that “the challenges demand a long-term commitment to renewal and reform” (p. 132), and adoption of the principle that “nothing is solved for very long” (p. 98).

The theoretical issue is that learning and adaptation occur at key boundaries in public administration (e.g., Congress-executive branch; public-private; House-Senate; public sector-citizen). Indeed, organizational boundaries are the crucial sites for learning (e.g., Kettl, 1994; Schon, 1971). Yet current

theory was inadequate to informing a long-term institutional design for learning through the Stennis Congressional Fellows program. And learning as a core competence (e.g., bureaucratic learning, congressional-executive learning, House-Senate learning) was not developed at all by the *Beyond Distrust* panel. The fundamental connections among boundaries and governance, learning, leadership, and ongoing adaptation to context need further development.

#### 1.4 CONCLUSION

In each of two cases in my experience—the Stennis Congressional Staff Fellows program, and the NAPA *Beyond Distrust* study—there is a need to explore at a deeper level what is meant, explicitly and implicitly, by a formal concept of “boundary.” Such a concept hopefully will be useful both to the field of public administration, and to my own effort to have a better intellectual foundation from which to:

- (1) Define a future program of research, consultation, and executive development that focuses on creating ever evolving new definitions of boundary for public administration, in ways that (a) build capacity at institutional boundaries such as the Congress-executive branch boundary or the House-Senate boundary and (b) link theory and practice;
- (2) Design, build, and conduct a staff college for senior congressional staff as a mechanism for building ongoing individual, interindividual, and interinstitutional boundary leadership;
- (3) Design and conduct legislative-executive conferences and congressional-executive and House-Senate staff-to-staff working groups to improve information and learning capacity in particular policy areas; and
- (4) Work with public leaders interested in developing individual and organizational competence in boundary leadership and management across a variety of roles, functions, policy areas, and institutions.

**TABLE 4.**  
**EXPLICIT OCCURRENCES OF THE TERM "BOUNDARY" IN BEYOND DISTRUST**

<u>Chapter</u>	<u>Page</u>	<u>Quotation</u>	<u>Boundary Code</u>
C4. The High Cost of Interbranch Confrontation	92	Accountability is central to the democratic process. It often breaks down when, as a result of congressional intervention in administration, Congress substitutes its expertise for Executive Branch accountability to implement policies and programs—even though Congress may be intervening because of Executive Branch evasions. It also breaks down when the network of quasi-independent commissions, offices, boards, agents, and staffs takes on traditional executive roles, conducts congressional oversight functions, and becomes a permanent rather than an ad hoc feature of government. In both cases, the <u>boundaries</u> between the constitutional branches as they are traditionally understood are blurred so that neither branch is accountable—or at the very least that accountability for government's performance is likely to be obscured.	Boundary blurring Boundary between constitutional branches
C4. The High Cost of Interbranch Confrontation	93	To create more effective relationships ... each branch must support organizational devices that respond to contemporary problems and bridge their institutional <u>boundaries</u> , at the same time preserving fundamental prerogatives of constitutionally separated institutions.	Boundary bridging Boundary spanning

TABLE 4 (continued).

Chapter	Page	Quotation	Boundary Code
C5. Build Bridges for Productive Relations Between the Branches	96	In a government of actively shared powers over policy and program development, as well as implementation, devices are urgently needed to increase understanding and communication between the branches, at the same time respecting and preserving the <u>boundaries</u> that enable programs to be implemented efficiently and effectively.	Preserving boundaries
C5. Build Bridges for Productive Relations Between the Branches	96	The panel urges Congress to enact legislation establishing a Conference on Legislative-Executive relations, patterned after the Administrative Conference of the United States, to institutionalize sustained attention to problems and opportunities in the many dimensions of legislative-executive relations. This approach is intended to respect and preserve <u>the boundaries</u> that enable programs to be implemented efficiently and effectively.	An organization to monitor and preserve boundaries
C5. Build Bridges for Productive Relations Between the Branches	97	Although it may be possible to find general agreement that specific instances of intervention exceed desirable and proper limits of participation by legislators in administrative decision making, these <u>boundaries</u> can never be precisely defined either by general rule, law, or judicial decision. It is not possible to develop a universal rule defining a "this-far-and-no-farther" role for Congress and its members. .... The spheres (of Congress and the Executive) are destined to overlap.	Defining boundaries



TABLE 4 (continued).

<u>Chapter</u>	<u>Page</u>	<u>Quotation</u>	<u>Boundary Code</u>
C5. Build Bridges for Productive Relations Between the Branches	97	Legislators and administrators should thus settle <u>the boundaries</u> of their respective responsibilities on a case-by-case basis—through bargaining and compromise—by adapting ground rules that will bridge differences and encourage both constructive conflict and cooperation.	Negotiating boundaries Defining boundaries Ground rules
C5. Build Bridges for Productive Relations Between the Branches	99	People-linking processes (e.g., temporary assignments in the other branch) and interbranch retreats and seminars at which views can be exchanged are devices for supporting effective staff-to-staff relationships and channeling ideas and innovations across <u>institutional boundaries</u> .	Learning across boundaries
C5. Build Bridges for Productive Relations Between the Branches	100	Debates over <u>proper boundaries</u> between the branches often miss the most important question: How well are the people being served by their government? (performance-based, citizen-customer oriented demonstrations)	Defining (proper) boundaries
C6. Provide Leadership for Broad Planning and Policy Development	106	Building a more constructive congressional-executive relationship requires respect for and encouragement of each branch's roles in planning, initiating, and sustaining federal policy making. There will always be <u>indistinct boundaries</u> between the branches during every stage of the policy making process. Both branches are involved throughout the process; neither branch can effectively fulfill its key functions without dealing constructively with the other. Nevertheless .. (goes on to identify some distinct boundaries ..)	Indistinct boundaries

Source: National Academy of Public Administration (1992). Beyond Distrust: Building Bridges Between Congress and the Executive. Washington, DC: NAPA.

**TABLE 5.**  
**IMPLICIT OCCURRENCES OF THE TERM "BOUNDARY" IN *BEYOND DISTRUST***

<u>Chapter</u>	<u>Page</u>	<u>Quotation</u>	<u>Boundary Code</u>
C1. The Struggle for Control of Policy Implementation	21	The question of the proper nature and extent of congressional involvement in the details of administration is central to debates about the meaning of the separation of powers as a criterion for carrying out the Constitution. The empirical reality is that there are two principles: a system of separation of powers and a system of checks and balances.	Power Authority Legitimacy How far into the policy process is "ok" to intervene
C1. The Struggle for Control of Policy Implementation	21	Executive issues have become important to the success of the modern presidency .. Put another way, politics, policy making, and policy implementation have become inseparable.	Blurring boundaries of activities
C1. The Struggle for Control of Policy Implementation	25	Congressional micromanagement has come to represent a hodgepodge of observations and charges about the proper role of Congress in executive issues. The term is neither wholly concerned with lawmaking nor wholly concerned with oversight nor even with Congress' role of representation. The term micromanagement has taken on a life of its own; indeed, it reflects the ongoing search for a legitimate administrative role for Congress. It also illustrates, rather pointedly, how Congress's roles of lawmaking, oversight, and representation have become so blurred that it is often impossible to distinguish them in practice.	Blurring conceptual boundaries

TABLE 5 (continued).

<u>Chapter</u>	<u>Page</u>	<u>Quotation</u>	<u>Boundary Code</u>
C3. Forces of Change Affecting the Legislative-Executive Relationship	69	The behavior of Congress, the President, and Executive Branch departments....must be seen in the context of broader changes over the last several decades that set the stage and, in many cases, drive much of the action in those institutions.	Boundary between institution and environment
C6. Provide Leadership for Broad Planning and Policy Development	105	Jurisdictionally limited channels of policy making are used without coordination or regard for clearly related policies and programs developed in other such channels.	Boundaries of jurisdiction versus substantive policy boundaries
C6. Provide Leadership for Broad Planning and Policy Development	109	Increasing redundancy and jurisdictional overlap in Congress—reflected in policies and programs developed and managed by overlapping committee jurisdictions and legislative managers—can undermine comprehensive attempts at integrated policy and program development.	Boundaries of jurisdiction versus substantive policy boundaries
C6. Provide Leadership for Broad Planning and Policy Development	111	The panel believes that the organization of Congress is out of sync with the dimensions of the issues facing the country and with the processes of policy implementation in and beyond the Executive Branch.	Boundaries of organization versus boundaries of issues
C7. Improve Executive Information and Congressional Oversight	120	... having become directly involved in the details of program implementation, it is difficult to resume the arms' length relationship that is essential for effective oversight. Congress' role as an intervenor in implementation, when it is sustained and participatory in executive issues, inherently conflicts with its role as an oversight body. Common bases of accurate information are one key factor in reducing this conflict.	Role boundaries

Source: National Academy of Public Administration (1992). Beyond Distrust: Building Bridges Between Congress and the Executive. Washington, DC: NAPA.

**TABLE 6.**  
**EXAMPLES OF EXPLICIT AND IMPLICIT OCCURRENCES OF THE TERM**  
**"BOUNDARY" IN WHO MAKES PUBLIC POLICY?**

<u>Chapter</u>	<u>Page</u>	<u>Quotation</u>	<u>Boundary Code</u>
C7. Prospective Payment System for Hospitals under Medicare	166	[Congress is involved in] . . . how we define .. distances between counties for boundary purposes	Geographical boundaries  Costs defined by boundaries
	170	In adding -on and defining exceptions to implementing PPS, an issue where Congress intervened was in hospital boundary moves	Geographical boundaries as sites for congressional intervention  Moving geographical boundaries for cost purposes but leaving the same boundaries unchanged for other purposes
	171	Hospital geographical boundary moves	Health care institutions redefining SMSA boundaries
		Creation of the Geographical Review Board	Organizations to decide when to redefine a boundary
	173	In response to pressure from hospitals, Congress has moved the geographic (census) boundaries of hospitals, which affect whether a hospital is considered urban or rural for PPS purposes. However, in 1989, Congress shifted boundary decisions to the Geographical Review Board, which it located, at least nominally, in the executive branch.	Politics of moving boundaries  Design and location of institutions to monitor boundaries  Cost boundaries vs. geographical boundaries vs. institutional boundaries
	174	In PPS, the Prospective Payment Assessment Commission is a novel solution to increase the analytic capacity of Congress and to [have an institutional broker to act as a check and balance for information between the branches]	Organization to span boundaries .. to separate cost data from political decisions made from that data

TABLE 6 (continued).

<u>Chapter</u>	<u>Page</u>	<u>Quotation</u>	<u>Boundary Code</u>
	178	The interface between the branches is formally a battle zone, characterized by profound lack of trust, high tension, incentives to get separate credit for savings, a rising federal deficit, and escalating hospital and health care costs. But the battle lines between the branches are blurred by the emergence of the Prospective Payment Assessment Commission, which is a source of key information for both sides and often plays a positive role of separating information from political decisions made on the basis of that information. ...	Boundaries as battle lines and battle zones  Trust at boundaries  Battle lines blurred  Role and effects of a Commission designed to operate in the zone between the branches
	184	ProPAC and the Geographical Review Board offer interesting approaches to each of the issue areas they were designed to address: ProPAC to conduct impartial analysis with broad input; the GRB to make decisions on hospital boundary moves.	Different institutions with different roles, each operating at a boundary or interface that blurs politics and administration
	358	Congressional initiatives changed the structure of governmental activities and functions. This shift is characterized by the creation of an array of commissions, boards, and specially designated offices within and between both branches.	Variety of structures being created between the branches
	369	The central question is not whether Congress will co-manage policy and programs with the executive branch but how effectively both branches can use this form of governance to ensure vigorous partisan debate about and resolution of public policy choices affecting the long-term vitality of the nation, while at the same time respecting and preserving the boundaries that have been the mark of the durability of our constitutional democracy.	Blurring and changing boundaries  Respecting and preserving constitutional boundaries

Source: Robert S. Gilmour and Alexis A. Halley (1994). Who Makes Public Policy? The Struggle for Control Between Congress and the Executive. Chatham, NJ: Chatham House.

## CHAPTER 2

### METHODOLOGICAL POINTS OF DEPARTURE

“How you see the boundaries of public administration will in large measure determine what you bank and what you therefore have available for analysis and action. Ask me what my paradigm (of public administration) is and you will find the same uneasiness you experience. But the need to be self-conscious about public administration remains. While persons at lesser levels of academic experience may adopt a framework developed by someone else, the scholar needs to have his or her own. That is a major part of scholarly autonomy (Sherwood, 1976).”

“The value of theory is heuristic—a designation which sometimes carries the unfortunate connotation that the theory is not good for anything else. (But) a theory is validated not by showing it to be invulnerable to criticism but by putting it to good use. Methodology, I believe, should say no more than this about a questionable theory: if you can do anything with it, go ahead (Kaplan, 1964, p. 322).”

“Phenomenological research always takes its point of departure from lived experience or empirical data (Van Manen, 1990, p. 22).”

Chapter 1 argued that the two cases forming the empirical roots for this dissertation—the NAPA *Beyond Distrust* study and the Stennis Congressional Staff Fellows program—each demonstrate the importance of developing a concept of boundary (i.e., a language, a set of categories, a perspective). This chapter states the research questions that will anchor the inquiry and outlines the structure of the investigation. It also has a discussion of the importance of concept development and situates that within the context of an ongoing program of work.

#### 2.1. RESEARCH QUESTIONS AND APPROACH

##### Research Questions

The goal of this dissertation is to produce a foundation for a concept of boundary in public administration practice. Specifically, the dissertation seeks a concept of boundary that will inform my work and public administration theory and practice in at least two interfaces: the boundary between Congress and the executive branch and the boundary between the U.S. House and the

U.S. Senate. This dissertation is a step in the much longer process of theory building in the tradition of action research (e.g., Lewin, 1946). It will not produce a theory, but the foundation for a concept with an accompanying emerging grammar and set of categories that might be useful to theory and to practice.

An investigation seeking to develop theory or an element of theory needs research questions that offer the flexibility and freedom to explore a phenomenon in depth (Strauss & Corbin, 1990). Four research questions guide this dissertation:

1. What categories—derived from as wide an examination as possible—are important to develop a formal concept of boundary?
2. What are some important potential properties and relationships within and among those categories?
3. How do the categories, relationships, and properties apply to the public administration cases that initiated this inquiry?
4. What are the next steps to further develop this work? For example, how might a workable boundary concept be institutionalized in particular areas? What additional work is needed to more fully develop the boundary concept both formally and practically?

### **Structure of the Investigation**

Because boundary was a category that emerged as undeveloped in two case studies, a logical next step to achieve deeper understanding seemed to call not for additional empirical work, but for an interaction between that work (action) and a body of reasoning that is more abstract. The latter is an exercise in theory building and concept development, a subject in its own right. Arriving at workable theories and concepts calls for the exercise of creative imagination (Kaplan, 1964) and disciplined investigation (Glaser & Strauss, 1967; Sartori, 1984). Procedures for doing that are difficult to prescribe, but there are many good ideas (e.g., Campbell, Daft, & Hulin, 1982; Wallace & Gruber, 1989; Boden, 1990; Glaser & Strauss, 1967).

To conduct an exploration of boundary as a formal concept, and to forge a potentially closer link between theoretical analyses and public administration practice concerned with boundaries, this dissertation is an exercise in reconstructed logic (Kaplan, 1964) as well as an exercise in developing a grounded formal concept (Glaser & Strauss, 1967). Building a concept of boundary in the tradition of grounded theory and concept clarification is a process of constant comparison. That this was stunningly so was revealed early on in a preliminary library survey seeking to identify the possible domains that might inform the present task. In just a few hours, I learned that boundary could be located in at least the following literatures, at different levels of analysis and in widely differing arenas of action: philosophy, ethics, physics, political geography, urban planning, anthropology, sociology, law, religion, women's studies, social work, and organizational theory. The latter discovery led to the realization that even the process of developing a foundation for a concept of boundary would have to be phased, as it would be impossible to examine, in-depth, each of the above bodies of literature independently within



the limits of this study, much less to have information sufficient for making an intelligent selection.

The approach of this dissertation is an adaptation of one recommended by Glaser & Strauss (1967) and Strauss (1987) when the aim is to make a transition from substantive theory (i.e., research focused on a particular substantive area such as congressional-executive relations) to formal or conceptual areas of inquiry (such as boundary) and then to apply the understanding that emerges from developing the the formal concept back to what might now be a much more fully informed and enriched theory and practice in the substantive area that precipitated the formal inquiry.

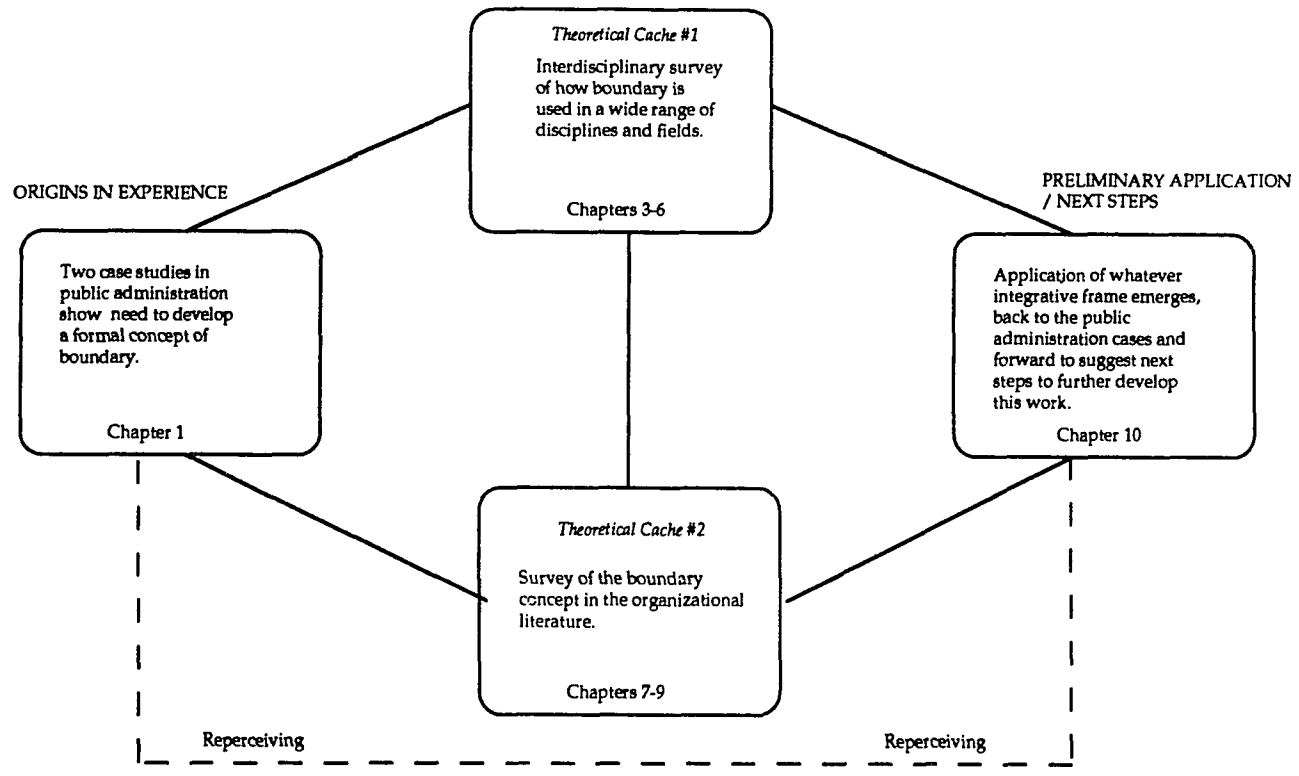
(Substantive) theory is theory developed for a substantive or empirical area of inquiry, such as patient care, professional education, or industrial relations. Formal theory is developed for a formal, or conceptual area of inquiry such as stigma, formal organization, or socialization. Both types of theory exist on distinguishable levels of generality, which differ only in degree. Therefore, in any one study, each type of theory can shade at points into the other. The analyst, however, needs to focus clearly on one level or the other, or on a specific combination, because the strategies vary for arriving at each one (Strauss, 1987, p. 242).

The present approach consists of the following steps, which are also displayed graphically in Figure 3, where they are associated with specific chapters in the dissertation:

1. *Show empirical, substantive origins for the core, formal concept (i.e., for boundary).* The need to develop a formal concept of boundary was established in Chapter 1. In formal methodological terms, this was accomplished using open and selective coding procedures which identified the empirical referents for the core category (i.e., boundary) to which all subsequent inquiry will relate.

FIGURE 3.  
STRUCTURE OF THE INVESTIGATION

DEVELOPING A CONCEPTUAL LANGUAGE FOR BOUNDARY



*2. Develop a language or guidebook for the core concept.* To build a generic frame of reference (an overall guidebook, Kaplan, 1964) for a formal concept of boundary, it is necessary to choose comparison groups or to conduct theoretical sampling (Glaser & Strauss, 1967; Strauss & Corbin, 1990) or case selection (Yin, 1989). In short, it is necessary somehow to delimit caches or cases well beyond the empirical origins which will, in their own right, be the basis to develop a formal concept of boundary. In this dissertation an iterative, dialectical approach is used to identify and develop two illustrative "theoretical caches:" one interdisciplinary and one intradisciplinary (focused to the organizational literature).

The first "theoretical cache" aims to develop a boundary guidebook from as wide a disciplinary domain as possible. Part II of the dissertation reports the approach and results of an interdisciplinary literature survey of the boundary concept. The decision to be interdisciplinary was a result of discovering that boundary could likely be located in literatures ranging from physics to ethics. Thus, rather than arbitrarily limiting the investigation, at the outset, to some few disciplines, and within those to some few levels of analysis, an interdisciplinary survey was deemed a necessary beginning to outline the contours of the boundary concept, and to help to delineate some subsequent intradisciplinary focus.

The second "theoretical cache" continues the work of developing a boundary guidebook, only now the focus is intradisciplinary (within the organizational literature). The parameters of this "cache" emerged from the interdisciplinary survey as well as the empirical origins, and are reported in Part III of the dissertation. In this second theoretical cache, emphasis is placed on exploring a prospective boundary-related issue (i.e., boundary spanning and boundaryless) that surfaced in the earlier interdisciplinary effort, and

developing a cumulative, transitional boundary synthesis as a basis to reinterpret the public administration case studies.

In the tradition recommended by Strauss (1987) and Glaser & Strauss (1967), these literature surveys cast as wide a nomological net as possible. The intent is to capture enough terminological variance so as to produce a beginning lexical and propositional guidebook for a formal concept of boundary. These investigations are library based surveys, using formal and informal information finding and synthetic procedures, along with the method of constant comparison, to reveal how the boundary concept has been developed in different substantive areas. In the hermeneutic tradition, the two literature surveys build on each other, on the empirical data bases outlined in Chapter 1, and set the stage to identify and develop next steps (Thachankary, 1992).

**3. *Apply whatever integrative frame emerges for the core concept back to reinterpreting or re-perceiving the empirical origins.*** Whatever integrative frame (categories, relationships, properties) emerges from the inter- and intra-disciplinary literature surveys of the boundary concept is then applied to “re-perceive” the formal boundary concept in the case studies that launched the exercise. This preliminary application constitutes a very informal test of the relevance and utility of the literature reviews, and thus begins to surface next steps needed to further develop this work (see Chapter 10).

**4. *Identify and discuss next steps.*** The final step in this dissertation is to develop conclusions and implications for research, consultation, and practice by reflecting on the cumulative results of the effort. A particular focus is to consider the utility of further developing a workable boundary concept and whether and how it might be institutionalized in particular areas, both formally and informally.

The above four steps draw elements from grounded theory (Glaser & Strauss, 1967; Strauss, 1987); middle-range theory (Perry, 1991); historical analysis (Kieser, 1994); action research (Susman & Evered, 1978); phenomenological research (Van Manen, 1990); and reflective conversation with the situation from multiple perspectives (Schon and Rein, 1994; Allison, 1971; Linstone, 1984; and Thachankary, 1992). The effort is essentially a process of constant comparison, using an iterative, dialectical approach recommended by Glaser & Strauss (1967) and also in hermeneutics (Thachankary, 1992), which calls for examination between the whole, parts, and back again.

The process of hermeneutic inquiry is an iterative one in which the examination moves between the whole, the parts, and back again. The process of understanding is a dialectical one between the parts and the whole and comprehension and explanation. This is so because every understanding must be based on some pre-understanding of the concepts used to express meanings. This is called the hermeneutic circle where "the anticipation of the global meaning of a text becomes articulated through a process in which the meaning of the parts is determined by the whole and also determines the global meaning of the text, etc., as a whole (Thachankary, 1992, pp. 220-221).

The requirements and characteristics of this approach (further developed in the next section) are highlighted in Table 7.

## **2.2 THE IMPORTANCE AND RELEVANCE OF CONCEPT DEVELOPMENT**

### **Concepts, Theories, and Action**

As this dissertation focuses on identification and development of a concept, it falls within the activity of theory building. Theory building has to do with the growth of knowledge and the nature of knowledge. Theory organizes knowledge and changes the content of knowledge as well as the form (Kaplan, 1964, p. 305). The value of theory lies not only in the answers it gives but also

**TABLE 7.**  
**METHODOLOGICAL ELEMENTS UNDERLYING THE APPROACH TO**  
**DEVELOPING A FORMAL CONCEPT OF BOUNDARY**

- 
- |                |   |
|----------------|---|
| <b>PURPOSE</b> | <ul style="list-style-type: none"> <li>• Generate a concept grounded in human acts</li> <li>• Better match the concept with the empirical world</li> <li>• Generate basis for eventual middle range theory</li> <li>• Provide theoretical guides to practitioner's choices</li> <li>• Conduct interpretive research and concept development to enable this analyst to mature and prepare for more effective engagement with practitioners and scholars</li> </ul> |
|----------------|---|
- 

- |  |   |
|--|---|
| <b>CHARACTERISTICS COMMON TO THE METHODOLOGICAL APPROACHES UNDERLYING THE APPROACH USED IN THIS DISSERTATION</b> | <ul style="list-style-type: none"> <li>• Multiple perspectives on a phenomenon; Formal theory (concepts) require data from many different substantive areas</li> <li>• Generating conceptual categories from empirical evidence; using the evidence to illustrate the concept</li> <li>• Library work is a form of fieldwork</li> <li>• The method of conversational relation—of reflective conversation with the situation—as the art of developing and illustrating the emerging concept</li> <li>• Concept-building growing from intensive “work-in-action” is fundamentally a writing activity</li> <li>• Deal with relevance and disconfirmability of the concept by seeing whether the reality constructed has any resonance at all in the system, and then use that to keep monitoring in the future until there is a grounded, relevant, useable formal concept building toward practice, substantive, and formal theories</li> <li>• Separate and shared continuum of roles and expertise for researcher and practitioner in a long-term program of learning. For example, role continuum can range from rationalistic model builder to unobtrusive observer to organizational actor to active change agent</li> </ul> |
|--|---|
-

the new questions it raises. One might almost say that science is as much a search for questions as for answers (Kaplan, 1964, p. 322).

Concept development is an essential step in building theory and in building and acting on policy, whether administrative or substantive. Concepts are abstractions formed by generalization from particulars (e.g., achievement, intelligence, weight, space, conformity, and honesty are concepts); when they are deliberately or consciously invented or chosen for special research purposes, concepts are sometimes designated as constructs (Kerlinger, 1973; Stone, 1978). Concepts are of central, foundational importance to theory building and to action in the world of the practitioner. To act, policy makers must rely upon language, concepts, and theory (Kirlin, 1984). To conduct research, scientists do likewise. For the scientist, scientific concepts:

. . . mark the categories which tell us more about our subject matter than any other categorical sets; they mark the paths by which we move most freely in logical space; they identify nodes or junctions in the network of relationships, termini at which we can halt while preserving the maximum range of choice as to where to go next (Kaplan, 1964, p. 52).

Ultimately, the scientist wishes to go beyond mere descriptive statements in order to construct hypotheses or propositions that explain empirical relationships. And the practitioner wants to develop concepts to capture the objectives (s)he wishes to pursue. Concepts are the basic building blocks in the process of building scientific knowledge and in the process of building actionable knowledge.

Just as concepts, words representing first-order abstractions, are the building blocks of theory, bridging empirical phenomena and theory, so too are they the building blocks of policy. . . . Language shapes and constrains perception, choice and actions. . . . (C)oncepts from which policy is shaped only have meaning in

relationship to some theory and attendant values (Kirlin, 1984: p. 20).

Research devoted to concept formation is thus symbol creation research in contrast to symbol communication research (Stryker & Statham, 1985).

In symbol communication research, the meaning of concepts has already been agreed on and is relatively clear. Consensus exists in the field. Definitions have been created and new data about traditional variables simply need to be transmitted to convey meaning. Symbol creation research, on the other hand, involves the creation of new grammar, new variables, and new definitions, thus spawning new paradigms (Daft & Lewin, 1990, p. 5).

### **Concept Development in an Ongoing Program of Learning**

Table 8 situates the dissertation as a phase in an ongoing, long-term learning process. The table, and the phases within it, aim to convey a dynamic program of work that is an iterative, repeated recycling process of structured and emergent understanding and acting. It shows that the dissertation grows out of my earlier fieldwork, which was in part action research (e.g., Whyte et al., 1989; Karlsen, 1989; Susman & Evered, 1978; Lewin, 1946), and in part case-study research (e.g., Yin, 1989; Agranoff & Radin, 1990; Pettigrew, 1990). The table also highlights the differential engagement of researcher and practitioner within the various phases (Karlsen, 1989; Glaser & Strauss, 1967; Whyte et al., 1989; Evered & Louis, 1981). In the present phase, for example, I am taking responsibility to engage systematically with the literature to develop a formal concept that was suggested from interactions with practitioners. Whatever my investigations produce, however, will be brought back into engagement with practitioners, first, by interacting with the written records outlined in Chapter 1, and later by taking the results to the next steps of my organizational work. The phases to this point in the ongoing program of learning are now briefly summarized.



TABLE 8. POSITIONING THIS RESEARCH IN A PROCESS OF STRUCTURED UNDERSTANDING AND ACTING

	I. FIELDWORK PRIOR TO THIS RESEARCH			II. GROUNDED, FORMAL CONCEPT DEVELOPMENT		NEXT STEPS
	1	2	3	4	5	6
	Reflective Practitioners	Emerging "Practice Theory"	Emerging "Substantive Theory"	Emerging "Formal" Concept	Seeking Enriched Understanding of the Emerging Formal Concept	Applying the Concept To Past, Present, Future Theory and Practice
Congress-Executive Arena (NAPA work)	How, why, and with what results does Congress intervene in the details of the policy process? (NAPA panel)	Inter-institutional bridges of trust, communication, organization, management, and performance  (both Congress and the Executive, or, if one does "x" then the other should do "y") (NAPA 1992 Panel Report)	Five styles of congressional co-management of the policy process with the executive branch (Gilmour and Halley (1994) casebook)	In the fieldwork, identification of explicit and implicit formal concepts of:	Through documentary sources, conduct comparative investigation of "boundary" in different substantive areas to build a concept—an interpretive understanding—that will be useful both to prior cases and to future work in those and related areas	Toward verification and relevance  Toward reinterpretation of prior and present theory and practice
House-Senate Arena (Stennis C-Fellows work)	What is a concept of staff leadership appropriate to Congress and a rapidly changing world? (Inaugural cohort of Fellows)	Create a congressional staff advisory council in Congress  Create an ongoing learning forum for senior House and Senate Congressional staff (1994 Fellows' Summary)		Boundary spanning roles, processes, organizations, values  Boundary management Boundary leadership role, processes, values		Toward extension and improvement of present and future theory and practice
Involvement of: Scholars Practitioners Self	High (H) H H	Medium (M) H H	Low (L) H	H L H	H L H	H (future) H (future) H (present)
Main Methodological Supports	<ul style="list-style-type: none"> <li>Case Study Research: Yin (1989); Agranoff &amp; Radin (1990); Pettigrew (1990)</li> <li>Critical Theory: Ricci (1984)</li> <li>Linking Research and Practice: Argyris et al (1985); Linstone (1984); Susman &amp; Evered (1978)</li> <li>Transorganization Development: Cummings (1984); Halley (1994)</li> </ul>			<ul style="list-style-type: none"> <li>Grounded Theory: Glaser &amp; Strauss (1967); Strauss &amp; Corbin (1990); Strauss (1987); Pettigrew (1990)</li> <li>Middle Range Theory: Perry (1991)</li> <li>Historical Analyses: Kieser (1994)</li> <li>Action Research: Susman &amp; Evered (1978)</li> <li>Reflective Conversation with Situation: Rein &amp; Schon (1994); Schon (1983); Van Manen (1990); Allison (1971); Linstone (1984); Thachankary (1992); Sartori (1984)</li> </ul>		Probably:  Glaser & Strauss (1967) Rein & Schon (1994) Susman & Evered (1978) Rosell (1992; 1995) etc.
Dissertation Chapters	Chapters 1, 2			Chapters 3-9		Chapter 10

**1. Phase I: Fieldwork** In the context of knowledge-building as a long-term, often cyclical process, the work on which this dissertation is based—the NAPA study of the Congress-Executive arena, and the program design and implementation of the Stennis Congressional Fellows program in the House-Senate arena—can be construed as an extensive period of fieldwork (Glaser & Strauss, 1967) that incorporated elements of: case study research (e.g., Yin, 1989; Agranoff & Radin, 1990; Pettigrew, 1990), action research (e.g, Susman & Evered, 1978), critical theory (Ricci, 1984), and transorganization development (Cummings, 1984; Halley, 1994). This fieldwork laid the empirical grounding to develop a formal concept of boundary.

The fieldwork that is the root for this research can be further described in a three-leveled methodological language that shows the progression to the “concept-building” inquiry at hand: viz. from reflective scholar-practitioners asking a question, to the emerging “practice theory” they developed to answer the question, and to the emerging “substantive theory” researchers derived from working with them.

A. Reflective Scholar-Practitioners. Both cases (NAPA and Stennis) involved groups of reflective “scholar-practitioners” (Schon, 1983). For NAPA, the scholar-practitioners were 18 former Members of Congress, current and former public administrators and policy analysts, and academicians, as well as a staff of political scientists, a management analyst, and an organization development consultant. For Stennis, the scholar-practitioners were 34 senior congressional staff with a broad range of public service and private sector experience on and off Capitol Hill and a program staff oriented to learning, institution building, and organization development. In both cases, these practitioner groups are called “reflective” because they came together to explore a question—to

inquire into their practice. The NAPA group, using case studies and their collective experience, explored how, why, and with what results Congress intervened in the details of the policy process. The Stennis group, using outside experts, background readings, and their collective experience, explored what concept of staff leadership might be appropriate to Congress and to a rapidly changing world.

B. *Practice Theories*. The answers both groups of scholar-practitioners developed, as documented in their respective reports, might be regarded as their "practice theories," developed, to be sure, to differing degrees of sophistication as a function of the project and resources available. A practice theory is one which: ". . . resembles a formal theory but is in no sense identical. It is based on experience, not systematic research. It constitutes a mental map of what's important and what to do about it" (Vaill, 1979; Weisbord, 1987). For both the NAPA group and the Stennis Fellows, their recommendations constituted their mental maps of what was important and what to do about it.

C. *Substantive Theory*. The third level of the fieldwork laying the foundation for this research is the transition from "practical theory" to "substantive theory." Practical theory is based principally on experience. Substantive theory, by contrast, is based on systematic research and developed to link practical theory to a substantive area in the academic community (e.g., Glaser and Strauss, 1967). Substantive theory is developed for a substantive area of administrative inquiry such as the Congress-Executive Branch relationship or staff leadership in the House-Senate relationship.

Gilmour and Halley (1994) derived the five styles of congressional co-management of the policy process with the executive branch (i.e.,

strategic leader, combative opponent, superintendent, consultative partner, and passive observer) directly from the ten case studies selected by the panel and indirectly from panel, staff, and practitioner discussions of those cases. They also began the process of linking that insight to extant literature in congressional-executive relations and the policy process. The co-management idea thus grows out of the practical theory embodied in the NAPA panel conclusions and recommendations, and is Gilmour and Halley's version of an emerging substantive theory particular to the Congress-Executive arena. Substantive theory has not yet been developed for the Stennis Congressional Fellows program.

*2. Phase II: Grounded and Formal Concept Development.* The second phase of my work is what is developed in this dissertation. It builds on the above methodological progression in the fieldwork to develop a "grounded and formal" concept of boundary, shown as levels 4 and 5 in Table 2-2. The term "grounded" conveys the fact that the boundary concept is anchored in the fieldwork as articulated in Chapter 1. The term "formal" conveys a distinction between the emerging practical and substantive theories developed during the fieldwork and the more formal concept to be developed in this research. In contrast to practical theory and substantive theory, formal theory is developed for a broader conceptual area of administrative inquiry. That broader conceptual area encompasses or permeates the more specific substantive areas (e.g., authority is a formal concept in both the Congress-Executive arena and the House-Senate arena). The development of a formal theory, with inter-related sets of formal concepts, is the product of a long and laborious process (Miner, 1980).

This dissertation seeks to begin the transition from fieldwork toward grounded formal theory (Glaser & Strauss, 1967) and toward preparation for

future engagement in the political and administrative system. It builds on the earlier fieldwork and uses the construction of a formal concept of boundary as the first step in making the transition to a more formal theory. That formal concept, and eventual formal theory, it is hoped, will ultimately help to understand and to guide my research and practice in **both** the Congress-Executive and the House-Senate arenas.

All of the “theories” just described—practice theory, substantive theory, and formal theory—are, in this grounded, participatory action research program, “grounded theories” in the following sense:

A grounded theory is one that is inductively derived from the study of phenomena it represents. That is, it is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon. Therefore, data collection, analysis, and theory stand in reciprocal relationship with each other. One does not begin with a theory, then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge (Strauss & Corbin, 1990, p. 23).

**3. Phase III. Applying Formal Concept Development to Theory and Practice.** The third phase of work, shown in Table 8 as “next steps,” will apply the boundary concept that is developed here to theory and practice. That effort will be outlined in the closing chapter of this dissertation.

Methodologically, my overall work program is rooted principally in two traditions—action research (Whyte et al., 1989; Karlson, 1989; Susman & Evered, 1978; Lewin, 1946) and grounded theory (Glaser & Strauss, 1967). Both traditions regard the various polarities (e.g., qualitative-quantitative, inductive-deductive, positive-interpretive) as mutually supportive rather than mutually exclusive (Lee, 1991). The overall effort might best be characterized as an ongoing, cumulative program of “grounded, participatory action research.”

That program is punctuated at different phases by varying degrees and types of participation of researchers and practitioners. At one phase of such a program, practitioners and researchers might be more of a dichotomy and work self-consciously but independently; at another phase [which Whyte et al. (1989) call participatory action research, Reason (1988) calls co-operative inquiry] users and researchers are engaged throughout. These apparent dichotomies (i.e., from full separation of researcher and practitioner to full partnership) can be transcended with a very long timeframe and a program of work that seeks to be cumulative. In short, as Karlsen (1989) implies, researchers and practitioners are engaged throughout in a common learning process involving action, reflection, and theorizing, but in different role combinations. Researchers and practitioners share responsibility for the inquiry process and the action process. At the same time, each has distinct roles and distinct responsibilities which cannot be shared by others (Karlsen, 1989; Evered & Louis, 1981).

### **2.3 CAVEATS**

Three possible limitations need to be recognized with respect to the above approach to building a concept of boundary.

The first is the lack of face-to-face practitioner involvement in this phase of the research. This is a temporary phenomenon as can be seen when this work is situated in the broader program portrayed in Table 8. The premise of this investigation is that now is an appropriate point in that program for this investigator to take the responsibility to reflect on and analyze what the action research process has been and will be about (Susman & Evered, 1978), to interact with the literature and with scholars, and thereby to create a better, personal conceptual framework for understanding what is going on (Hackman in Lawler et al., 1985). At the same time, I continue to direct the Stennis Congressional

Fellows program and to consult at NAPA, and both those activities keep the dissertation in touch with practitioners. Indeed, the conceptual framework just adopted for the 104th Congress Stennis Fellows program includes, as a main design anchor, the need for the Fellows to develop a concept of boundary leadership appropriate to Congress and a rapidly changing world.

A second possible limitation might be the fact that prior data and experience are used, preliminarily, to "test" or anchor the emerging concept. Miner (1980), for example, makes a strong point that a major pitfall in the inductive approach is that the research from which the theory is induced may tend to become confused with an adequate test of the theory. He says the same research is used twice for two different purposes, and that a self-fulfilling prophecy results. If one goes back to the prior data used to develop the theory, anything that is unique and ungeneralizable is very likely to be confirmed. To offset that, he believes that when theories are developed inductively, they should be tested subsequently on a new sample, in a manner that is entirely independent of the pre-theory research. Glaser & Strauss (1967), and Strauss & Corbin (1990) argue quite the opposite from Miner. In their view, in order for theory to be grounded, its development must be conducted in continual conversation with the data from which it is derived. They also urge, however, that especially during formal concept development, the researcher also engage in conversation with data other than the original set, both as a resource for richer concept development and as a means to begin to extend the range of the concept derived from the original data. The latter approach is taken in this investigation.

Thirdly, with all the focus on boundary in this dissertation, the critical reader might conclude that it is being proffered as the principal interpretive scheme better to understand and to practice in the two interstices of interest as

well as in public administration. That is not intended to be the case, and such a conclusion would most certainly be in grave violation of the tradition in which this research is conducted, *viz.*, that there is no one correct interpretation, and that interpretations are subject to revision and continuing development (e.g., Thachankary, 1992; Catron & Hammond, 1990) through continued reflective interaction with scholars and practitioners and further basic research.

## **2.4 SUMMARY**

Chapter 2 identified the research questions and approach of the present investigation and described the methodological points of departure for this dissertation. It situated the dissertation in a broad, cumulative methodological framework that showed how the immediate research grows out of my earlier work and lays a foundation for future work. The dissertation was characterized, in that broader framework, as an effort to construct grounded theory; more specifically, as an effort to build a grounded, formal concept of boundary as a step toward formal theory and better informed future personal action for this investigator. The tradition in which this concept-building research is conducted was described. Finally, three possible limitations of the methodological approach were addressed.



## **Part II**

### **INTERDISCIPLINARY SURVEY OF THE BOUNDARY CONCEPT**

"The notion of a boundary is one of those notions which are difficult to discuss because of their fundamental simplicity (Rapoport, 1967, p. 307)."

"The boundary of one thing is the beginning of another (Leonardo in Weinberg, 1975, p. 144)."

"It all depends on your frame of reference (Casper & Noer, 1972, p. 265)."

#### **Introduction to Part II**

In public administration, connections with other disciplines are strong, as is reliance upon their theoretical perspectives (Simpson, 1993, p. 4). Studies indicate that barriers between disciplines are eroding rapidly, and that researchers in the future will rely much more on interdisciplinary approaches." (Graham, 1989) Hence, any investigation, especially one concerned with a concept so fundamental as "boundary," will be well advised to examine sources of potential value outside the field (ignoring the difficulties that ensue in specifying what is inside and what is outside public administration).

The term "boundary" assumed a key position in the experiences described in Part I. The purpose of Part II is to report the findings of a limited, exploratory interdisciplinary survey of the boundary concept. The question pursued is how "boundary" is used in a wide range of areas. The specific aims are to: (1) Provide a broad basis and background for developing a formal concept of boundary relevant to the practice of public administration; (2) Identify a very preliminary lexicon so as to eventually arrive at a language of boundary—a glossary of terms and a family of potentially important sub-categories associated with the concept; (3) Identify illustrative boundary definitions and propositions, and compare and contrast their features; and (4)

Suggest and refine the parameters for more limited, but deeper surveys of the boundary concept.

The findings from three waves of investigation, each focusing on a different type of reference source and each building on the one prior are presented:

- Wave 1: describes a lexical approach to boundary using selected online (computerized) databases (Chapter 3);
- Wave 2: describes a systems-disciplinary approach to boundary using selected dictionary and encyclopedic references (Chapter 4); and
- Wave 3: describes a thematic approach to boundary using selected synthetic books or journal articles that have as their main focus to understand the boundary concept from an interdisciplinary perspective (Chapter 5).

Part II concludes with a synthesis of the three investigations, and suggests an area of inquiry for a next phase of work in crafting a concept of boundary for public administration practice. Formal and informal methods of information finding were applied to conduct the interdisciplinary survey (e.g., Simpson, 1993; Glaser & Strauss, 1967), and are described as needed to support the presentation of each wave of the survey. The survey maximizes breadth to provide a rich context and guidance for the depth to be pursued in Part III.

**CHAPTER 3**  
**WAVE ONE—LEXICAL APPROACH TO BOUNDARY**  
**USING ONLINE DATABASES**

The first wave of this interdisciplinary survey was a simple online search of 15 electronic databases accessible at The American University and George Washington University Libraries. The purpose was to get a surface sense of where and how "boundary" is a topic in various areas as catalogued by the Library of Congress. A second objective was to conduct a limited analysis of headings so as to yield a very preliminary lexicon of terms associated with "boundary." The scan also produced references that would be useful to examine in more depth in later chapters. The 15 on-line databases searched are identified in Table 9 (located at the end of this chapter). The wave one survey is considered illustrative, both with respect to databases searched, queries made, and subsequent analyses.

Four searches were conducted using the 15 online electronic databases identified in Table 9.

- Search 1: "KEYWORD = BOUNDARY OR BOUNDARIES OR BOUNDARYLESS"
- Search 2: "TITLE = BOUNDARY"
- Search 3: (a) "SUBJECT = BOUNDARY" and (b) "SUBJECT = BOUNDARIES"
- Search 4: "KEYWORD = BOUNDARYLESS"

Table 9 shows the 15 online databases fall into two broad clusters: (1) seven general or multi-subject databases and (2) seven specialized or subject-specific databases such as those dedicated to law, or to education, or to business and management. The immediate, on-screen outcome of each search was the

number of library entries (titles) as well as the titles themselves. An overview of these numerical results, for each search, is displayed in Table 10 (also located at the end of this chapter). As noted in Table 10, the numbers there should be regarded as indicative of potential broad trends rather than precise indicators, as some entries (i.e., some book or article titles) appear more than once in a database if they are held at more than one library location. Also, frequency alone does not always warrant an inference of importance in any domain. The point of this first wave was to gain a broad sense of the forest, knowing and hoping that the contours that appeared here would shift as the inquiry proceeded. The results are discussed further in the chapter sections below.

### 3.1 WHERE BOUNDARY IS A TOPIC

The numerical results shown in Table 10, for search 1 (the intersection of "boundary or boundaries or boundaryless) or search 2 (title=boundary), suggest that, with the caveat noted above, boundary has very high or very low concentrations in the databases.

For example, the applied science, technology, and biology index shows by far the greatest number of entries among the 15 databases, for the intersection of "boundary or boundaries or boundaryless (n=5709)," or for "boundary as title (n=275) or boundary as subject (n=3108)." This suggests that boundary might be a rather well developed, or at least frequently used concept in the applied sciences, technology, and biology, and that, in those areas, it has been crafted as a technical-scientific (probably quantitative) concept.

The general library catalog shows the second highest number of entries for the intersection of "boundary or boundaries or boundaryless (n=3893)" or for "boundary as title (n=252)" or boundary as subject (n=859)." This suggests that even though "boundary" is a technical-scientific concept, it probably also

occurs in other disciplines. Given that the highest concentration may be in applied science, boundary is probably used loosely (metaphorically) in some disciplines, precisely (technically) in others.

Of the specialized databases, the business and management index (n=2723) and the educational resources information center (n=2138) show the second and third highest number of entries after the applied sciences for the "intersection of boundary or boundaries or boundaryless."

A different sort of distinction emerges looking at the lower ends of Table 10, suggesting where boundary might not be a concept. The medical library catalog showed the fewest (n=0) entries for the intersection of "boundary or boundaries or boundaryless" as well as for subject as boundary and subject as boundaries. Indeed, the only time the medical database produced any titles was for the query title=boundary, and then only two titles appeared (though the titles suggested potentially important facets of boundary not so readily apparent in the other databases, such as ethical violations). The biography index also showed few entries for the query "boundary or boundaries or boundaryless" (n=10) as well as for the query "title or subject=boundary." Essay and general literature (n=2) and medical library catalog (n=2) also show very few occurrences for "title=boundary."

So the impression at this point was that boundary will be richly developed in the physical and natural sciences and engineering, as well as (though perhaps less so or at least differently) in business and management, education, and other areas. The next stages of the analysis sought to uncover some of the differentiation in a way that would produce a preliminary lexicon of boundary related terms.

### 3.2 BOUNDARY TERMS WHEN "SUBJECT=BOUNDARY" OR "SUBJECT=BOUNDARIES"

A subject code is a heading established by the Library of Congress (commonly referred to as the *Red Book* or the LCSH). The *Red Book* enables the reader first, to identify all relevant headings on a topic, and, second, to locate the most precise headings (Simpson, 1993). Two contrasts are important in the searches described here. First, when an online search is conducted using the command "subject =", it is possible to distinguish the number of entries (titles in each database) from the generally fewer number of subject categories to which each title has been assigned (see columns 3a and 3b of Table 10). For example, as can be seen in Table 10, column 3a, the number of subject categories (range 0 to 10) for subject=boundary is far fewer than the number of entries (range 0 to 3108) in each database. Second, the singular term, boundary, shows some interesting contrasts to its plural, boundaries. Ultimately, the focus here is on the subject categories, and using those to surface a preliminary language of boundary.

By way of introduction, Table 10 shows the range of subject categories is wider for boundaries (n=0 to 81) than for boundary (n=0 to 10). The reverse is true for the number of entries (range 0 to 3108 for boundary; range 0 to 299 for boundaries). For the singular, subject=boundary, the applied science database shows the highest number of entries (n=3108) among the 15 databases, but not the highest number of subject categories. For the plural, subject=boundaries, by contrast, the applied science database shows zero entries or subject categories, and instead, the highest number of entries occur in the multi-subject periodicals index (n=299) and in newspaper abstracts (n=280). Moreover, each of the latter (multi-subject and newspaper) differentiate boundaries no further into subject category clusters. That is, the number of subject categories is the same as the query, subject=boundaries.

The focus now turns to the content of the subject categories. Appendix A displays a numerical summary of the 18 subject codes produced among the 15 databases, when the search query was "subject=boundary." The 18 subject codes are summarized in Table 11 (at the end of this chapter) according to whether they are primarily physical-natural sciences; social-behavioral-political-humanities; or are a mix or hard to categorize based on the information provided. The physical-scientific area shows the most subject category terms associated with boundary, and they refer either to mathematical or engineering methods (e.g., boundary integral method, boundary scan methods, boundary element analysis) or to areal issues (e.g., boundary mountains, boundary waters). At least as reflected in Table 11, the arts and social sciences show fewer boundary terms, and those listed are mostly either organizational (e.g., boundary commission), behavioral (e.g., boundary spanning), conflict oriented (e.g., boundary disputes, boundary patrols). Two terms, boundary lines and boundary stones (milestones) seemed hard to place in either the hard or social sciences.

Appendix B displays a numerical summary of the 16 subject codes produced among the 15 databases, when the search query was "subject=boundaries." The 16 subject codes are summarized in Table 12 according to whether they are primarily physical-natural sciences; social-behavioral-political-humanities; or are a mix or hard to categorize based on the information provided. The physical-scientific area shows the least subject category terms associated with boundaries, and the social-behavioral-political-humanities show the most. For the latter, those listed are mostly either legal-political, psychological, mythological, cultural, or geographic. Several subject categories (e.g., boundaries-Congresses, boundaries-periodicals, boundaries-

history, boundaries-study and teaching) seemed too broad or too vague to place in either the hard or social sciences and humanities.

Table 13 combines Tables 11 and 12 to produce the common lexicon yielded from the searches subject=boundary and subject=boundaries.

### **3.3 BOUNDARY TERMS WHEN "TITLE=BOUNDARY" AND "KEYWORD=BOUNDARYLESS"**

For the query "title=boundary" (range=0 to 275 entries across 15 databases, with most in applied sciences and general library), an analysis was conducted of terms appearing in the titles in each database. The results are summarized in Table 14 according to whether key words in the titles are primarily physical-natural sciences; social-behavioral-political-humanities; or a mix or it is difficult to tell based solely on key words in the title.

Because the Table 14 analysis is conducted at the level of titles or actual library entries, many more boundary-related terms show than in the prior tables. However, the same overall generalizations seem to apply, *viz.*, that boundary language in the natural sciences is more mathematical or areal; and in the arts and social sciences more inter- or intra-personal, organizational, conflict-laden, normative, legal, political, mythological, and concerned with boundary change processes ranging from boundary making to boundary busting to boundary revitalization. Also, for the first time in this analysis, the term "boundaryless" appears with the social sciences, as do the terms feminism and post-modernism.

The appearance of "boundaryless" prompted the last search in the online databases, that of "keyword=boundaryless." This search produced the narrowest range of titles, from 0 to 19; the most 0 entries (eight databases had 0 occurrences); 0 entries in the applied sciences; and the two highest occurrences



in the business and management index (n=19 entries) and in the multi-subject periodical index-past (n=11 entries). The beginning lexicon of terms associated with boundaryless, based on analysis of keywords in the titles, appears in Table 15. Now terms that have not appeared to this point appear, such as information economy, global economy, infinite capacity, learning and innovation, and deregulation. Also, such unusual associations as a boundaryless career and boundaryless behavior—unusual at least in the sense that boundaryless suggests the direct opposite of boundary, hence the expectation that boundary behavior will be quite different from boundaryless behavior. Such discourse might raise more than the eyebrows of those in the physical and natural sciences, as boundaryless appears not to be a term in those domains. For the moment, the important point is simply to note an emerging lexicon associated just with the term boundaryless, and to note that it seems confined to the social-behavioral realm of discourse.

### **3.4 INTERIM SYNTHESIS: A PRELIMINARY LEXICON OF BOUNDARY TERMS**

Table 16 is a partial synthesis to show the boundary lexicon that has surfaced in this quite preliminary analysis. Several impressions can be noted.

The terms associated with boundary in the physical and natural sciences leave (for this analyst) an impression of motion and quantification, with the scope ranging from cell boundaries to boundaries of the solar system. There is a strong sense of elaborate quantitative analytic methods to measure boundary elements, boundary layers, boundary diffraction, boundary velocity control. This is a highly particular language of boundary, not easily commented upon by a lay observer.

The terms associated with boundary in the social-behavioral-political-humanities domain suggest rather different activity, more combative, more the sense that boundaries require leadership, administration, management, laws, even hunters and maps to locate them, and that they have psychological aspects—all juxtaposed with the seed of an idea that there is such a thing as boundaryless, which Table 15 shows also has organizational, behavioral, leadership, and management aspects. The idea of a barrier also appears, in particular with respect to ethnicity. Finally, the sense that boundaries are made, mapped, violated, managed, hunted, blurred, spanned, busted, revitalized, transformed, expanded, and dissolved, to name a few actions suggested in the lexicon.

Taking account of the terms that were hard to classify to either the physical-natural science realm or the social-behavioral-political-humanities realm, one learns boundary has a history, there is such a thing as boundary theory, concepts and practices, and even the study and teaching of boundary. Clearly the term boundary has quite a rich and varied lexicon of associated terms. And if the term boundary is used in a mixed group (e.g., with physical and social scientists and private sector executives), it will evoke quite different images, making subsequent discourse likely problematic until some of the different boundary frames of reference are surfaced. At a minimum, it seems safe to conclude that the term boundary is indeed a good candidate for an interdisciplinary survey, at least at the broad levels approached here.

**TABLE 9.**  
**ONLINE DATABASES SEARCHED FOR OCCURRENCES OF "BOUNDARY"**

<b>General Databases</b>	<ol style="list-style-type: none"> <li>1. <u>WRLC Libraries Catalog (CATS)</u>. Gives availability of books, periodicals, films, music scores, and videos available at seven libraries in the Washington Research Library Consortium (George Washington University, American University, George Mason University, Marymount University, Catholic University of America, Gallaudet University, Mount Vernon College, University of the District of Columbia).</li>   <li>2. <u>Multi-Subject Periodical Index: 1990 to 1995 (GENL)</u>. An on-line version of UMI/Data Courier's Periodical Abstracts. Citations from 1990 to the present are included. Subjects include the sciences, humanities, and social sciences, as well as topics of general interest. For earlier articles covering the same subjects (before 1993), select PAST from the database selection menu.</li>   <li>3. <u>Multi-Subject Periodical Index (PAST)</u>. PAST is the on-line version of several well-known printed indexes to periodical literature. All indexes are searched simultaneously: <ul style="list-style-type: none"> <li>BP Business Periodicals Index (from July 1982-1993)</li> <li>GS General Science Index (from May 1984-1993)</li> <li>HU Humanities Index (from February 1984-1993)</li> <li>RG Reader's Guide (from January 1983-1993)</li> <li>SS Social Sciences Index (from February 1983-1993)</li> </ul> </li>   <li>4. <u>Newspaper Abstracts (PAPR)</u>. An online version of UMI/Data Courier's Newspaper Abstracts database (26 American newspapers). Citations from 1989 to the present are included.</li>   <li>5. <u>Book Review Digest and Cumulative Book Index (REVU)</u>. The online version of the H.W. Wilson Company's Book Review Digest and Cumulative Book Index. It covers book reviews and book publishing information from 1989 to the present.</li>   <li>6. <u>Essay and General Literature Index (ESAY)</u>. The online version of the H.W. Wilson Company's Essay and General Literature Index. Citations from January 1989 to the present are included.</li>   <li>7. <u>Biography (BIOG)</u>. The online version of the H.W. Wilson Company's Biography Index. Covers biographies which appeared in periodicals or in book form from August 1981 to the present are included.</li> </ol>
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TABLE 9 (continued).

**Specialized  
Databases**

Business and Management

8. ABI Inform (ABII). An online version of UMI/Data Courier's ABI/INFORM database. Citations from June 1986 to the present are included.

Education

9. Education Index and Library Literature (EDLI). The online version of the H.W. Wilson Company's Education Index and Library Literature. Both indexes are searched simultaneously. Citations from 1989 to the present are included.
10. ERIC. The online version of the databases produced by the Educational Resources Information Center. ERIC includes two subfiles: Resources in Education (ED), from 1966 to the present; and Current Index to Journals in education (EJ), from 1969 to the present. Both files are searched simultaneously.

Science, Technology, Health, Biology

11. Applied Science and Technology Index (ASAB). The online combination of two popular printed indexes: AS Applied Science and Technology Index (from October 1983 – ); and AB Biological and Agricultural Index (from July 1983 – ).
12. Medical Library Catalog (HAL). George Washington University Medical Library Catalog.

Law

13. Index to Legal Periodicals (LEGL). The online version of the H.S. Wilson Company's Index to Legal Periodicals. Citations from August 1981 to the present are included.
14. LEAGLE. The on-line catalog of holdings in the Washington College of Law Library, The American University.
15. IACOB. The on-line catalog of holdings in the George Washington University College of Law Library.

**TABLE 10.**  
**ILLUSTRATIVE SEARCHES OF ONLINE DATABASES FOR VARIOUS**  
**OCCURRENCES OF "BOUNDARY"**

<b>ONLINE DATABASE</b>	<b>Keyword= Boundary, Boundaries or Boundaryless</b>	<b>Title= Boundary</b>	<b>Subject= Boundary  (#subject categories) / # entries</b>	<b>Subject= Boun- daries  (#subject categories) / # entries</b>	<b>Keyword= Boundaryless</b>
1. WRLC Libraries Catalog (Washington Research Library Consortium)	3893	252	(10) / 859	(12) / 172	3
2. Multi-Subject Periodical Index: 1990 to present	2832	44	(2) / 12	(1) / 299	3
3. Multi-Subject Periodical Index	3489	71	(9) / 308	(7) / 71	11
4. Newspaper Abstracts	1996	35	(4) / 34	(1) / 280	1
5. Book Review Digest & Cumulative Book Index	901	56	(5) / 168	(6) / 21	1
6. Essay and General Literature Index	74	2	(0) / 0	(0) / 0	0
7. Biography Index	10	0	(0) / 0	(0) / 0	0
8. ABI-Inform (Business & Management Index)	2723	26	(1) / 1	(1) / 101	19

TABLE 10 (continued).

ONLINE DATABASE	Keyword= Boundary, Boundaries or Boundaryless	Title= Boundary	Subject= Boundary  (#subject categories) / # entries	Subject= Boundaries  (#subject categories) / # entries	Keyword= Boundaryless
9. Education Index and Library Literature	156	5	(2) / 12	(1) / 2	0
10. ERIC (Educational Resources Information Center)	2138	22	(0) / 0	(0) / 0	1
11. Applied Science, Technology, and Biology Index	5709	275	(7) / 3108	(0) / 0	0
12. HAL- Medical Library Catalog	0	2	(0) / 0	(0) / 0	0
13. Index to Legal Periodicals	332	7	(0) / 0	(8) / 118	0
14. LEAGLE (on- line catalog of the Washington College of Law Library)	n/a	7	(3) / 7	(81) / 126	0
15. JACOB-Law Library Catalog (George Washington University)	n/a	6	(2) / 2	(65) / 119	0

TABLE 11.

A BEGINNING LEXICON: SUBJECT CATEGORIES ASSOCIATED WITH BOUNDARY

(Note: numbers in parentheses refer to the number of databases (15 possible) in which the subject category appeared.\*)

<u>Physical- Natural Sciences</u>	<u>Social-Behavioral- Political-Humanities</u>	<u>Mix or Can't Tell</u>
• Boundary cretaceous tertiary (1)	• Boundary commission (2)	• Boundary lines (3)
• Boundary element analysis, method or methods (3)	• Boundary healthcare products corporation (1)	• Boundary stones (milestones) (2)
• Boundary integral method (1)	• Boundary patrols (border patrols) (2)	
• Boundary layer and boundary layer meteorology (5)	• Boundary spanning activity (1)	
• Boundary lubrication (2)	• Boundary disputes (5)	
• Boundary conditions (1)		
• Boundary mountains (1)		
• Boundary scan methods and testing (2)		
• Boundary value problems (5)		
• Boundary waters (6)		
• Boundary waves oceanography (1)		

(Source: Online database search for query "subject=boundary", Appendix A)

\*Counting the number of databases in which each subject category appears is more appropriate than summing the total number of title entries across the databases, as it is possible that some entries appear in more than one data base. The subject categories are the most important finding for present purposes. The numbers are simply possible general tendencies.

TABLE 12.

**A BEGINNING LEXICON: SUBJECT CATEGORIES ASSOCIATED WITH BOUNDARIES**

(Note: Numbers in parentheses refer to the number of databases (15 possible) in which the subject category appeared.\*)

<u>Physical- Natural Sciences</u>	<u>Social-Behavioral- Political-Humanities</u>	<u>Mix or Can't Tell</u>
<ul style="list-style-type: none"> <li>• Vegetation (1)</li> </ul>	<ul style="list-style-type: none"> <li>• Estates (5)</li> <li>• Ethnic Barriers (1)</li> <li>• In Art, Literature, Religion, Folklore (2)</li> <li>• Law and Legislation (2)</li> <li>• Maps (1)</li> <li>• Other Countries (4)</li> <li>• Political Aspects (2)</li> <li>• Psychological Aspects (2)</li> <li>• United States (3)</li> </ul>	<ul style="list-style-type: none"> <li>• Boundaries (10)</li> <li>• Cases (1)</li> <li>• Congresses (2)</li> <li>• History (3)</li> <li>• Periodicals (2)</li> <li>• Study and Teaching (1)</li> </ul>

(Source: Online database search for query "subject=boundaries," Appendix B)

\*Counting the number of databases in which each subject category appears is more appropriate than summing the total number of title entries across the databases, as it is possible that some entries appear in more than one data base. The subject categories are the most important finding for present purposes. The numbers are simply possible general tendencies.



**TABLE 13.**

**A BEGINNING LEXICON: SUBJECT CATEGORIES ASSOCIATED  
WITH BOUNDARY AND BOUNDARIES**

(synthesis of Tables 11 and 12)

<u>Physical- Natural Sciences</u>	<u>Social-Behavioral- Political-Humanities</u>	<u>Mix or Can't Tell</u>
1. Boundary conditions	1. Boundary commission	1. Boundaries
2. Boundary cretaceous tertiary	2. Boundary healthcare products corporation	2. Boundary lines
3. Boundary element analysis, method, or methods	3. Boundary disputes	3. Boundary stones (milestones)
4. Boundary integral method	4. Boundary patrols (border patrols)	4. Cases
5. Boundary layer and boundary layer meteorology	5. Boundary spanning activity	5. Congresses
6. Boundary lubrication	6. Ethnic barriers	6. History
7. Boundary mountains	7. Law and legislation	7. Periodicals
8. Boundary scan methods and testing	8. Estates	8. Study and teaching
9. Boundary value problems	9. In art, literature, religion, folklore	
10. Boundary waters	10. Maps	
11. Boundary waves oceanography	11. Psychological aspects	
12. Vegetation	12. Political aspects	
	13. In other countries	
	14. In United States	

TABLE 14.

A BEGINNING LEXICON OF TERMS ASSOCIATED WITH BOUNDARY

(Note: Numbers in parentheses refer to the number of online databases in which the term appears.)

<u>Physical- Natural Sciences</u>	<u>Social-Behavioral- Political-Humanities</u>	<u>Mix or Can't Tell</u>
<ul style="list-style-type: none"> <li>• Boundary algorithms (1)</li> <li>• Boundary and crossflow behavior (1)</li> <li>• Boundary and eigenvalue problems (1)</li> <li>• Boundary and interior layers (1)</li> <li>• Boundary and space (1)</li> <li>• Boundary butte (1)</li> <li>• Boundary canoe area (1)</li> <li>• Boundary cells (1)</li> <li>• Boundary centrifugation (2)</li> <li>• Boundary condition tests (8)</li> <li>• Boundary currents (1)</li> <li>• Boundary dam (1)</li> <li>• Boundary diffraction (1)</li> <li>• Boundary diffusion (2)</li> <li>• Boundary dominated flow (1)</li> <li>• Boundary driven mixing (1)</li> <li>• Boundary elements (7)</li> <li>• Boundary estimation (1)</li> <li>• Boundary finite element method (1)</li> <li>• Boundary fitted coordinate generation (1)</li> <li>• Boundary force method (1)</li> <li>• Boundary form effects and formulations (3)</li> <li>• Boundary induced perturbations (2)</li> <li>• Boundary integral analysis (methods, calculations, etc) (4)</li> </ul>	<ul style="list-style-type: none"> <li>• Boundary conversations (2)</li> <li>• Boundary dispute (5)</li> <li>• Boundary dissolution (2)</li> <li>• Boundary expansion and social influence (1)</li> <li>• Boundary face off (2)</li> <li>• Boundary fighting (1)</li> <li>• Boundary hunters (2)</li> <li>• Boundary issues and transformation possibilities (1)</li> <li>• Boundary law (3)</li> <li>• Boundary maintenance (1)</li> <li>• Boundary making (2)</li> <li>• Boundary management (roles) (2)</li> <li>• Boundary (organization) of the self (2)</li> <li>• Boundary officials (1)</li> <li>• Boundary pact (1)</li> <li>• Boundary panel (1)</li> <li>• Boundary path of exchange / leadership (1)</li> <li>• Boundary plan (1)</li> <li>• Boundary politics (2)</li> <li>• Boundary relations (3)</li> <li>• Boundary revitalization (2)</li> <li>• Boundary role ambiguity (3)</li> <li>• Boundary role spanning (5)</li> <li>• Boundary routing (2)</li> <li>• Boundary threat (1)</li> <li>• Boundary variables and interpersonal closeness (1)</li> </ul>	<ul style="list-style-type: none"> <li>• Boundary adjustment (1)</li> <li>• Boundary and resource issues (1)</li> <li>• Boundary bending (1)</li> <li>• Boundary breaker (3)</li> <li>• Boundary change (3)</li> <li>• Boundary concepts and practices (1)</li> <li>• Boundary constrained (1)</li> <li>• Boundary continuity (1)</li> <li>• Boundary control (7)</li> <li>• Boundary crossing (5)</li> <li>• Boundary effects (4)</li> <li>• Boundary extension (1)</li> <li>• Boundary free (1)</li> <li>• Boundary implications (1)</li> <li>• Boundary interaction (1)</li> <li>• Boundary line analysis (4)</li> <li>• Boundary markers (1)</li> <li>• Boundary methods (2)</li> <li>• Boundary modifications (1)</li> <li>• Boundary of abuse (1)</li> <li>• Boundary optima (1)</li> <li>• Boundary peak (1)</li> <li>• Boundary problems (2)</li> <li>• Boundary question (1)</li> <li>• Boundary redrawing (1)</li> <li>• Boundary revisions (2)</li> <li>• Boundary settlements (1)</li> <li>• Boundary snafu (1)</li> <li>• Boundary solutions (1)</li> <li>• Boundary structure (1)</li> <li>• Boundary survey (3)</li> <li>• Boundary theory (4)</li> <li>• Boundary value (5)</li> <li>• Boundary work (2)</li> <li>• Boundary zone (1)</li> </ul>

**TABLE 14 (continued).**

(Note: Numbers in parentheses refer to the number of online databases in which the term appears.)

<u>Physical- Natural Sciences</u>	<u>Social-Behavioral- Political-Humanities</u>	<u>Mix or Can't Tell</u>
<ul style="list-style-type: none"> <li>• Boundary interior layer (1)</li> <li>• Boundary layer (calculations, turbulence, transition, model, effect, experiment, thickness, etc) (7)</li> <li>• Boundary lubrication (1)</li> <li>• Boundary marching method (1)</li> <li>• Boundary mixing (1)</li> <li>• Boundary of the solar system (1)</li> <li>• Boundary perturbation method (1)</li> <li>• Boundary scan (6)</li> <li>• Boundary scattering (1)</li> <li>• Boundary shear (2)</li> <li>• Boundary simplification (1)</li> <li>• Boundary singularities (1)</li> <li>• Boundary stability (2)</li> <li>• Boundary stela (1)</li> <li>• Boundary variational formulation (1)</li> <li>• Boundary velocity control (1)</li> <li>• Boundary waters (6)</li> </ul>	<ul style="list-style-type: none"> <li>• Boundary violations in professional-client relationships (1)</li> <li>• Boundaryless (brands, career, organization) (2)</li> <li>• Feminism and post modernism (1)</li> </ul>	

(Source: Online database search for query "title=boundary.")

**TABLE 15.**

**A BEGINNING LEXICON OF TERMS ASSOCIATED WITH BOUNDARYLESS**

(Note: Numbers in parentheses refer to the number of databases in which the term appeared.)

<u>Physical- Natural Sciences</u>	<u>Social-Behavioral- Political-Humanities</u>	<u>Mix or Can't Tell</u>
	<ul style="list-style-type: none"><li>• Boundaryless behavior (2)</li><li>• Boundaryless brands (1)</li><li>• Boundaryless career (1)</li><li>• Boundaryless organization / networks (3)</li><li>• Customer-supplier relationships (2)</li><li>• Deregulation (1)</li><li>• Enterprise integration (1)</li><li>• Global economy, information economy (2)</li><li>• Infinite capacity (2)</li><li>• Leadership (2)</li><li>• Learning / innovation (2)</li><li>• Managing people (1)</li><li>• World, flesh, angels (1)</li></ul>	

(Source: Online database search for query "title=boundaryless.")

**TABLE 16.**  
**A BEGINNING LEXICON OF TERMS ASSOCIATED WITH BOUNDARY**  
(a synthesis of Tables 13 and 14)

<u>Physical- Natural Sciences</u>	<u>Social-Behavioral- Political-Humanities</u>	<u>Mix or Can't Tell</u>
Boundary:	Boundary:	Boundary:
1. Algorithms	1. Ambiguity	1. Boundaries
2. Crossflow behavior	2. Battle, face-off, fighting, dispute	2. Adjustment
3. Eigenvalue problems	3. Behavior	3. (and) Resource issues
4. Interior layers	4. Between places	4. Bending
5. Space	5. Bill	5. Breaker
6. Canoe area	6. Blurring	6. Change
7. Cells	7. Busting	7. Concepts/practices
8. Centrifugation	8. Commission, committee, panel	8. Constrained
9. Conditions (tests)	9. Conversations	9. Continuity
10. Cretaceous tertiary	10. Dissolution	10. Control
11. Currents	11. Expansion & social influence	11. Crossing
12. Dam	12. Healthcare corporation	12. Effects
13. Diffraction	13. Hunters	13. Extension
14. Diffusion	14. Issues & transformation	14. Free
15. Dominated flow	15. Law	15. Implications
16. Driven mixing	16. Maintenance	16. Interaction
17. Elements	17. Making	17. Lines/line analysis
18. Estimation	18. Management (roles)	18. Markers
19. Fitted coordinate generation	19. Officials	19. Methods
20. Form effects and formulations	20. Pact	20. Modifications
21. Integral analysis	21. Path of exchange/ leadership	21. (of) Abuse
22. Layer	22. Patrols (border patrol)	22. Optima
23. Lubrication	23. Plan	23. Peak
24. Methods	24. Relations	24. Problems
25. Mixing	25. Revitalization	25. Question
26. Mountains	26. Routing	26. Redrawing, revisions
27. (of) Solar system	27. Spanning	27. Settlements
28. Perturbation	28. Threat	28. Snafu
29. Scan	29. Violations	29. Solutions
30. Scattering	30. Boundaryless	30. Stones (milestones)
31. Segmentation	31. Estates	31. Structure
32. Shear	32. Ethnic barriers	32. Survey
33. Simplification	33. Feminism/postmodern	33. Theory
34. Singularities	34. In art, literature, religion, folklore	34. Value
35. Stability	35. In other countries	35. Work
36. Stelae	36. In United States	36. Zone
37. Value problems	37. Law and legislation	37. Cases
38. Variational formulation	38. Maps	38. Congresses
39. Velocity control	39. Political aspects	39. History of
40. Waters	40. Psychological aspects	40. Periodicals
41. Waves oceanography		41. Study and teaching
42. Vegetation		

**CHAPTER 4**  
**WAVE TWO—SYSTEMS-DISCIPLINARY APPROACH TO BOUNDARY**  
**USING DICTIONARIES AND ENCYCLOPEDIA REFERENCES**

The second wave of this interdisciplinary survey was a search of selected dictionary and encyclopedic references to the term boundary.<sup>1</sup> The purpose was to identify a fairly representative set of alternative definitions of boundary. A second aim was to provide a foundation which might inform organizing a full range of boundary characteristics so as to surface similarities and differences in how the concept is conceived.

**4.1 GENERAL DICTIONARIES AND ENCYCLOPEDIAS: BOUNDARY AS DIVIDES AND LIMITS**

A partial etymology of the term boundary, according to the *Oxford English Dictionary, Compact Edition* (1971), traces it to Sir Francis Bacon, John Locke, Samuel Johnson, Tyndall, and J. Plato.<sup>2</sup> Sir Francis Bacon (1626) wrote that "corruption is a reciprocal to generation . . . and they two are as natures two terms or boundaries." John Locke (1690), in *The Human Understanding*, said, "the simple ideas we receive from sensation and reflection are the boundaries of our thoughts." Johnson (1751) stated that "Providence has fixed the limits of human enjoyment by immoveable boundaries." Tyndall (1860) observed "the dot representing the boundaries of the ridges." Jowett Plato (1875) referred to "the boundary line which parts the domain of law from morality." And in an 1864 issue of *Theological Review* is the assertion that "between science and theology it is impossible to build a boundary wall."

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<sup>1</sup>Occasionally other sources (e.g., articles, books) were consulted to help understand the dictionary and encyclopedic references or lack thereof.

<sup>2</sup>Quotes from Bacon, Locke, Johnson, Tyndall, and Plato are taken from the *Oxford English Dictionary, Compact Edition* (1971).

In all of these early tracings, are two dominant themes which can be observed in present-day definitions found in general dictionaries and reference encyclopedias: the idea of division or separation of one thing from another, and the idea of limits. Noticeably absent is a notion of the role of boundary as an area of interaction.

That boundary divides one entity from another is the focus of the *Random House Dictionary* definition (1987), which asserts that "boundary, border, and frontier<sup>3</sup> share the sense of that which divides one entity or political unit from another":

- Boundary, in reference to a country, city, state, territory or the like, most often designates a line on a map: boundaries are shown in red. Occasionally it also refers to a physical feature that marks the agreed upon line separating two political units: e.g., the Niagra River forms part of the boundary between the U.S. and Canada.
- Border is more often used than boundary in direct reference to a political dividing line; it may also refer to the region (of, for instance, a country) adjoining the actual line of demarcation: e.g., crossing the Mexican border; border towns along the Rio Grande.
- Frontier may refer to a political dividing line (crossing the Spanish Frontier). It may also denote or describe the portion of a country adjoining its border with another country (e.g., towns in the Polish frontier) or, especially in North America, the most remote settled or occupied parts of a country (e.g., the frontier towns of the Great Plains). Frontier, especially in the plural, also refers to the most advanced or newest activities in an area of knowledge or practice (e.g., the frontiers of nuclear medicine).

In addition to or as part of dividing entities, boundary sets the limits to the entity, whether material or immaterial; boundary is also the limit itself

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<sup>3</sup>Political geographers are one group who have made major distinctions between boundary and frontier (e.g., Prescott, 1987).

(*Compact Edition of the Oxford English Dictionary*, 1971). The idea of boundary as setting limits or being the limit itself shows, in general reference sources, as associated with land (law), sports, and mathematics. Boundary is, for example:

- . . . that which serves to indicate the limit or extent of land. In law, the exact boundary of land is always a matter of evidence; where no evidence is available, the court acts on presumption which may be rebutted. For example, the boundary of land on opposite sides of a road, whether public or private, is presumed to be the middle line of the road. Where two fields are separated by a hedge and a ditch, the boundary line will run on the field or outside edge of the ditch (*Encyclopedia Britannica*, 1946).
- . . . a line marking the limit of land, etc. (*Oxford Reference Dictionary*, 1986).
- . . . (in cricket) the limit of the field . . . a hit in which the ball reaches or crosses the boundary line of the field on one or more bounces, counting four runs for the batsman (*Random House Dictionary*, 1987).
- . . . (in mathematics) boundary condition is a stated restriction, usually in the form of an equation, that limits the possible solutions to a differential equation (*Random House Dictionary*, 1987).

A third feature of boundary in the selected general references examined (and many, especially encyclopedias, had no reference to boundary) is the identification of terms associated with boundary. The following four appeared:

- Boundless: having no bounds, infinite or vast, unlimited (*Random House Dictionary*, 1987; *Oxford Reference Dictionary*, 1986).
- Boundary Rider: (Australian) .. a ranch hand who patrols the boundary of a sheep or cattle station in order to watch the stock, repair fences, etc. (*Random House Dictionary*, 1987)
- Boundary Value Problem: any of a series of problems occurring in the solution of a differential equation with boundary conditions (*Random House Dictionary*, 1987).
- Boundary Layer: the portion of a fluid flowing past a body that is in the immediate vicinity of the body and that has a reduced flow due to the forces of adhesion and viscosity (*Random House Dictionary*, 1987).



## 4.2 A SYSTEMS-DISCIPLINARY FRAME OF REFERENCE

The analysis conducted in the first wave of this interdisciplinary survey showed that the term boundary has a rich associated lexicon in the natural-physical sciences and mathematics, and in the arts and social-behavioral-political sciences. However, this vocabulary reflects the classification scheme of the Library of Congress and a scan of book and article titles sometimes accompanied by abstracts. Moreover, this rich differentiation did not appear when, as described above, general dictionaries and general encyclopedias were searched. That led to two further questions: (1) What place would the boundary concept occupy in standard reference works such as dictionaries and encyclopedias for a wide range of disciplines? (2) What scheme or frame of reference might be used to ensure a reasonably illustrative coverage of a wide range of disciplines? In other words, in conducting the wave two survey, a more differentiated frame of reference—beyond boundary alone, or even beyond the distinction between physical-natural sciences and other areas—was needed to guide the search for alternative definitions of the boundary concept in discipline-specific dictionaries. An exhaustive search for such a scheme is an inquiry in its own right and well beyond the scope of this dissertation. So an illustrative scheme was sought.

Boulding (1985) proposes an example of such a frame of reference, and his scheme became the point of departure from which to orient this wave of the interdisciplinary inquiry into alternative definitions of boundary. The Boulding idea is that we use seven systems to perceive the world, each created by the human learning process. Boulding's thesis is that these seven systems enable us to look at the earth or the world as a single economic, cultural, and communication system—a total system. Whether one agrees or not with that grand premise, his seven systems are potentially helpful in ensuring reasonably systematic, albeit selected, coverage of a range of disciplines. So in this wave of

the survey, the Boulding categories—his systems—provided a frame of reference within which dictionary and encyclopedic references on boundary were sought. (Table 17 summarizes Boulding's systems and the substantive fields in which I examined dictionary and encyclopedic references to see if they contained an explicit definition for the boundary concept.) The methodological aim was to examine at least one dictionary or encyclopedic reference for disciplines within each of Boulding's seven systems to see if they contained a definition for boundary or associated terms and to capture the essence of the definition itself.<sup>4</sup>

### **4.3 APPLYING THE FRAME OF REFERENCE: BOUNDARY IN BOULDING'S SEVEN SYSTEMS**

#### **Boundary in Physical Systems**

Boundaries are important in physical systems. Boundary in real or abstract space is defined in dictionaries in physics, mathematics, and engineering. In abstract space (mathematics) the boundary of subspace  $A$  of a given topological space  $X$  is "the set of points such that every neighborhood of any point of it contains both points from  $A$  and points from  $X/A$ ." (*Encyclopedia of Mathematics*, 1988). In real space (physics) and in abstract space, an important term is "boundary conditions" which describe or specify, quantitatively, what happens between one region of space and another—for example, at the boundary of two media like water and gas. Quantitative descriptions of boundary conditions also say much about what happens inside the respective media. In physical systems, one may also speak of specific boundaries such as the ergosphere around a black hole or the possible boundary of the universe. Dictionaries of mathematics had a rich lexicon of boundary terms: boundary

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<sup>4</sup>In conducting the search, it was often the case that several references were consulted, as they tended to be shelved together in library collections.

TABLE 17.  
 OVERVIEW OF BOULDING'S (1985) WORLD SYSTEMS AS A FRAME OF REFERENCE  
 FOR SYSTEMS-DISCIPLINARY DEFINITIONS OF BOUNDARY

<u>WORLD SYSTEM</u> (world as:)	<u>DESCRIPTION</u> (according to Boulding)	<u>ILLUSTRATIVE ISSUES</u> (according to Boulding)	<u>DISCIPLINARY* DICTIONARY &amp; ENCYCLOPEDIA REFERENCES CONSULTED RE: BOUNDARY</u>
<b>PHYSICAL SYSTEM</b>	<ul style="list-style-type: none"> <li>• Matter, energy, information</li> <li>• Atmosphere, oceans, land masses</li> <li>• Erosion, plate tectonics, vulcanism</li> <li>• Enormous variety of subsystems</li> <li>• Biosphere, solar system</li> </ul>	<ul style="list-style-type: none"> <li>• Extraordinary complexity of physical systems</li> <li>• Limits of the physical system on the human environment</li> </ul>	Physics Geography (physical) Engineering Mathematics Statistics
<b>BIOLOGICAL SYSTEM</b>	<ul style="list-style-type: none"> <li>• Biomass, habitats, ecosystems</li> <li>• Origin of life, reproduction, morphogenesis</li> <li>• Species, ecological succession and interaction</li> <li>• Evolution, catastrophe</li> <li>• Language, human capacity for learning</li> </ul>	<ul style="list-style-type: none"> <li>• Whether biological evolution has direction</li> <li>• Division of world into relatively isolated and unconnected ecosystems</li> </ul>	Biology Life Sciences
<b>SOCIAL SYSTEM</b>	<ul style="list-style-type: none"> <li>• Sociosphere, mosaic of societies, cultures, communities, interest groups</li> <li>• Threat system, exchange system, integrative system</li> </ul>	<ul style="list-style-type: none"> <li>• Underlying limits of the system: given yesterday what could today not be like?</li> </ul>	Anthropology Administration and Management Social Sciences Sociology, Law Urban Studies, Geography (social) Psychology
<b>ECONOMIC SYSTEM</b>	<ul style="list-style-type: none"> <li>• Legitimated exchange, prices, production, consumption, stocks, commodities, inflation</li> <li>• Wealth, income, money</li> <li>• Gross national product, gross domestic product, national income, net worth</li> <li>• Poverty; Unemployment</li> <li>• Economic development</li> </ul>	<ul style="list-style-type: none"> <li>• World as single economic system</li> <li>• Instability of inequality</li> <li>• Long run stability</li> </ul>	Economics Commercial Financial

\*Some "disciplines" or their sub-areas appear in more than one of Boulding's "world" systems. Some he does not mention have been inferred in this inquiry as being appropriate to associate with one or more of the world systems.

TABLE 17 (continued).

<u>WORLD SYSTEM</u> (world as:)	<u>DESCRIPTION</u> (according to Boulding)	<u>ILLUSTRATIVE</u> <u>ISSUES</u> (according to Boulding)	<u>DISCIPLINARY</u> <u>DICTIONARY &amp;</u> <u>ENCYCLOPEDIA</u> <u>REFERENCES CONSULTED</u> <u>RE: BOUNDARY</u>
<b>ECONOMIC SYSTEM</b> (continued)	<ul style="list-style-type: none"> <li>• Cost accounting, wages</li> <li>• Capitalism, centrally planned economies</li> </ul>	<ul style="list-style-type: none"> <li>• Size of political units</li> </ul>	<ul style="list-style-type: none"> <li>Political Science</li> <li>Politics</li> <li>Public Administration</li> <li>Political Geography</li> </ul>
<b>POLITICAL-ADMINISTRATIVE SYSTEM**</b>	<ul style="list-style-type: none"> <li>• Legitimated threat, leadership, hierarchy</li> <li>• Law, taxes</li> <li>• Political roles, political structures and units</li> <li>• International system, world government</li> <li>• Political aspects of all organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Preserving cultural variety vs. unified world system</li> </ul>	<ul style="list-style-type: none"> <li>Political Science</li> <li>Politics</li> <li>Public Administration</li> <li>Political Geography</li> </ul>
<b>COMMUNICATION SYSTEM</b>	<ul style="list-style-type: none"> <li>• Development and transmission of knowledge structures</li> <li>• Conversation, language</li> <li>• Printing, writings</li> <li>• Educational system, persuasion</li> <li>• Science, computers, information age / technology</li> <li>• Symbolic systems</li> </ul>	<ul style="list-style-type: none"> <li>• Role of regret in a communication system</li> <li>• Failures and breakdowns in a communication system</li> </ul>	<ul style="list-style-type: none"> <li>Communication Theory</li> <li>Education</li> <li>Artificial Intelligence</li> <li>Cognitive Psychology</li> </ul>
<b>EVALUATION SYSTEM</b>	<ul style="list-style-type: none"> <li>• Choice, images of alternative futures</li> <li>• Pain, pleasure, virtues, vices, values</li> <li>• Evaluative learning</li> <li>• Goodness, better or worse, accounting</li> <li>• Dilemmas (survival / destruction)</li> <li>• Learning how to learn</li> </ul>	<ul style="list-style-type: none"> <li>• What we mean by truth / error</li> <li>• Whether evaluative system is indeed a world system or a mosaic of isolated systems</li> </ul>	<ul style="list-style-type: none"> <li>Religion</li> <li>Ethics</li> <li>Philosophy</li> </ul>

\*\*Boulding's characterization of a political system has been adapted here to be the political-administrative system.

condition, boundary correspondence, boundary property, boundary value problem, boundary variation, bounded operator. Dictionaries of physics, physical science and technology did as well, though less so than mathematics: e.g., boundary element methods, boundary layer (control, separation, layer flow, separation), boundary lights, boundary lubrication. Though not in a dictionary or encyclopedia, and though located in a reference on boundaries in human behavior, the occurrence of statistical boundaries should be noted as another form of boundary quantification (i.e., as the appropriate quantification when the distinguishability between classes is ambiguous or not perfect) (Rapoport, 1967).

Within physical systems, mention should also be made of geography, which is one of those disciplines very difficult to classify in any scheme. Geography "is neither a purely natural nor a purely social science, and did not become established as a university discipline until after the natural and social sciences had become divided" (*Encyclopedia of Social Sciences*, 1968). Geography thus appears in several of Boulding's systems. Boundary is a very important concept in geography. The *Encyclopaedic Dictionary of Physical Geography* (1985) defines boundary condition and boundary layer. Other geography compendia define boundary structures and boundary current. In geography, boundary can refer to a dividing line set politically, as well as more abstract boundaries such as the ocean surface and boundary layers or the zone created when a fluid and a solid are in relative motion. The treatment of boundary in other sub-disciplines of geography will be noted in subsequent sections.

### **Boundary in Biological Systems**

Boundary, as an explicit term, is not important in biology and the life sciences, at least if appearance in dictionaries and encyclopedias is the criterion. Of the

several biology dictionaries examined, only one had a boundary term: "boundary layer" appeared in the *Chambers Biology Dictionary* (1989), there defined as the surface layer of gas or liquid across which molecular movement is diffusion limited and which has a significant effect on the uptake of CO<sub>2</sub> by leaves or of some solutes by cells. Nevertheless, the notion of division or separation and of limits are certainly relevant in biological systems. It is more likely that boundary is an implicit notion in biological systems. For example, the *Cambridge Encyclopedia of Life Sciences* (1985) does not define boundary per se. But it does discuss the transfer of information between cells, and it describes a hierarchy of environments as the central feature of life sciences (e.g., ranging from the various controlled environments within the cell up to the biological and physical components of the external environment of the whole organism. Implicit within these notions is the idea of a boundary between an entity (like a cell) and a broader context (like the extracellular environment provided for cells within the tissues). But that is the inference of this investigator, rather than an explicit entry in the dictionaries examined.

### **Boundary in Social Systems**

To judge from the few dictionaries and encyclopedias examined, boundary is a distinct concept in social systems as defined by disciplines such as anthropology, law, social sciences/sociology, social geography, and administration and management. One discipline where boundary did not appear in the few dictionaries and encyclopedias examined was psychology. The latter is an interesting finding since boundary is a term often used by clinicians (e.g., see Whifield, 1993) and psychotherapists. Moreover, Strassoldo (1977, p. 92) comments that:

There are two main contributions from psychology to the study of boundaries. One concerns development of the

subject (the self), the other the identification of the object (the other). . . . This means creating a fundamental boundary between me and the world inside and outside. . . . The second main contribution comes from Gestalt psychology . . . it concerns the categorization process, the way perceptions and observations are more or less automatically organized into patterns or entities. The recognition or imposition of boundaries is a fundamental activity of the human mind.

The point here is that psychological contributions to the study of boundary notwithstanding, the term boundary as such did not appear in the psychology references examined. Terms such as borderline intellectual functioning, borderline personality disorder, borderline schizophrenia, and borderline syndrome (*Dictionary of Behavioral Science*, 1989) were the closest to boundary in the references examined.

The *International Encyclopedia of Social Sciences* (Sills, 1968), rather than defining boundary per se, relates it to terms such as: area, culture area, enclaves and exclaves, and geography. One entry, within the discussion of area, distinguishes between the concepts of area and space, noting that "area is a concept associated with bounding and content, whereas space is not since by definition it involves a boundless three dimensional extent." In addition to space, area is defined with respect to: place, content, organization, and region. Boundary is a fundamental concept in geography, which studies "the areal character of the earth in which man lives—the form, content, and function of each areal part, region, or place and the pattern of and interconnections between the areal parts (whether social, cultural, political, economic and whether subjectively or objectively defined)" (*International Encyclopedia of Social Sciences*, 1968). Culture areas, for example, are geographical territories in which characteristic culture patterns are recognizable through repeated

associations of specific traits" (*International Encyclopedia of Social Sciences*, 1968).

Two anthropology references indicated that boundaries are studied as territories "held or marked" by various human societies, whether traditional or natural boundaries (e.g., specific hills, streams, trees) or symbolic (e.g., how boundaries between different nations, tribes, villages are sanctified by rituals or are otherwise inherently dangerous or powerful areas or marking special states of being). Terms associated with boundary in anthropology are "frontier, liminality, role, and systems analysis/systems theory."

Boundary has a great deal of substantive content and differentiation in law. The two legal works examined each defined boundary with respect to real property, stating, for example, that boundary is "any separation, artificial or natural, which marks the confines or line of two contiguous estates or properties." Natural and artificial boundaries are distinguished, including the determination of boundaries of political entities such as states.

Boundary is defined explicitly in dictionaries and encyclopedias of administration and management. Boundary can be "the nature and frequency of communication and interaction, or related psychological or social factors which define the role of a person in a group" (*Dictionary of Administration and Management*, 1981). Two associated concepts are organizational boundary spanning and bounded rationality. Organizational boundary spanning is identified but not defined except by reference to associated terms stated to be: interface, line and staff organization, network management or systems management, informal organization, and marginal man. Bounded rationality is an administrative problem solving concept stating that "since humans are bounded by their limited capacity, time, or access to obtain all necessary information they need to find optimal solutions, they have to settle for



workable solutions selected from a narrow range of alternatives" (*Dictionary of Administration and Management*, 1981; *Encyclopedia of Social Science*, 1968).

A sociology dictionary identifies boundary debate, boundary maintenance, and bounded rationality as individual terms (*Concise Oxford Dictionary of Sociology*, 1994). Boundary debate is defined only by reference to another term (contradictory class location). Boundary maintenance is "the ways in which societies or social systems maintain distinctions between themselves and others." Bounded rationality is "the cognitive limits to the ability of people to pursue wholly rational purposeful behavior."

Finally, Strassoldo (1977, p. 91) notes the contribution of urban and regional studies or urban design to the study of boundaries.

Students of human settlement meet with boundary problems at many levels. In the first place, defining the settlement is often difficult. . . . In the second place, it has been found that all social groups grow very attached to their boundaries and resist change. . . . Third, physical barriers in the city have depressing effects on the adjoining area; this halo effect works at every level of bounded areas.

### **Boundary in Economic Systems**

If one were to judge only from the few economic dictionaries and encyclopedias examined, economics does not seem to deal much with the explicit problem of boundaries. Indeed, the term, as such, only appeared in the *Dictionary of Commercial, Financial and Legal Terms* (Herbst, 1958), and there the definitions were in German. Strassoldo's (1977) interdisciplinary survey suggested that economic theory does not seem to have dealt much with the problem of boundaries. However, he goes on to contradict that assertion, saying that (Strassoldo, 1977, p. 91):

- Classical liberal economists would decry the existence of national frontiers as a barrier to free trade;

- Economics provides the conceptual tools for Boulding's (1963) work on state size and on boundaries as equilibrium lines;
- Scholars of such disciplines as regional planning, regional science and economic geography have sometimes concerned themselves with the economic problems of frontier regions; and
- For administrators needing guidelines on how to draw the boundaries of their jurisdictions, economics contributes the theory of optimum size of service areas and the problem of "internalization of positive spillovers and externalization of negative spillovers."

Thus, blanket assertions that boundary is not an explicit concept in economics are probably overstated. Clark (1994), for example, though not an economist by training, recently analyzed the strategic marketing implications of secondary effects of land boundaries, which occur in the border zone or "subnational areas whose economic life is directly and significantly affected by proximity to an international boundary" (p. 68). His article is more in the tradition of spatial economics than marketing. Another contemporary example is the global information economy and its role in boundary blurring (e.g., Rosell, 1995). A third would be the effects of economic development policies which revolve around boundaries (e.g., Fosler, 1988). Thus, the treatment of boundary in economic systems appears similar to its treatment in biological systems: i.e., it is an indirect or implicit concept underlying work within the discipline, and it may even be a core concept, but the term "boundary" is not used as a stand alone in the formal lexicon as codified in basic reference works such as the dictionaries and encyclopedias examined in this admittedly limited survey.

### **Boundary in Political-Administrative Systems**

In dictionary and encyclopedic references, political science and political geography appear quite sensitive to the boundary concept, public administration less so. Though not all political science dictionaries contained a definition for boundary, three did; the public administration dictionary did not. The terms that appeared in political science were: boundary, boundary exchange, boundary disputes, boundary disclaimers, and types of boundaries. Interestingly, "boundary and power" do not appear as defining terms in the sources examined. The only term that appeared in the public administration dictionary was bounded rationality (Chandler & Plano, 1988).

Boundary was important enough in the 1930s to warrant an extensive statement of its history as a concept in the *Encyclopedia of the Social Sciences* (Seligman, 1930), particularly its political and administrative aspects. There, we learn that:

. . . the definite delimitation of territory by boundary lines is a comparatively recent political device, being practically coincident with the rise of the modern nation state. It is based on the conception of a political unit that is primarily territorial. Primitive political organization with its essential basis of kinship needed no such concept of strict boundary lines (p.649).

Mechanisms of boundary determination are then shown to vary with the nature of the boundary (e.g., land boundaries fixed with treaties, ocean boundaries with international law). Disputes over the administration of boundaries as well as their location, and the need for systems of boundary administration (national and international) are noted.

Boundary is "a concept used in the systems approach to political analysis, which indicates the limits of a system and the points or interfaces at which influences from other systems (the environment) impinge upon that system"

(Roberts, *Dictionary of Political Analysis*, 1971). Four types of boundaries are noted: artificial boundaries, defacto boundaries, dejure boundaries, and natural boundaries (Shafritz, Williams, & Calinger, 1993). Boundary exchange refers to "the process whereby inputs from other systems (e.g., demands) are matched by outputs from the political system (e.g., policies) across the boundaries of the political system" (Roberts, *Dictionary of Political Analysis*, 1971). The study of boundary disputes provides an interdisciplinary focus for geographers, lawyers, and political scientists (*Oxford Companion to the Politics of the World*, 1993). They typically focus on four types of boundary disputes: territorial disputes, positional disputes, resource disputes, and functional boundary disputes. Boundary disputes on land, or maritime disputes, have historically been more common during conclusions of wars and acquisitions or ends of colonies. Boundary disclaimers are "statements on a map or chart that the status or alignment of international or administrative boundaries is not necessarily recognized by the government of the publishing nation" (Shafritz, Williams, & Calinger, 1993).

Strassoldo's (1977) interdisciplinary review of boundaries underlines the major contributions of political science to the theory of boundaries that cannot be captured in dictionary definitions. He says (p. 97):

Political science, as the science of the state and other political-territorial organizations and, especially, as the master science of international relations, has always been quite sensitive to problems connected with frontiers and boundaries, both as limits to effective power and as loci of contact, exchange, and especially conflict between political organizations. Political science has been heavily influenced by the communication, cybernetic, and systems approaches; and . . . these approaches lean heavily on the concept of boundary.

Political geography, as a subdiscipline of geography, contains a wealth of terms on boundary. The dictionaries and encyclopedias examined, however,

are not a good source to surface this lexicon. That finding was abundantly clear when a few of the books and articles of political geography were examined out of curiosity. Geopoliticians have produced a wealth of papers and books on boundaries—not only empirical-descriptive, nor mainly normative, but purportedly theoretical (Strassoldo, 1977; Kristof, 1969; Johnston, 1988). The latter body of literature distinguishes boundary from frontier, for example, and discusses concepts of phases involved in boundary making. At this point, though, it is worth noting that in both political science and political geographic references other than dictionaries and encyclopedias, mention is made how the functions of boundaries change throughout history (Boggs, 1940; Kratochwil, 1986).

Finally, mention should be made of boundaries and the military. According to Shafritz, Williams, and Calinger (1993), in the military “boundary is a control measure drawn along identifiable terrain features and used to delineate areas of tactical responsibility for subordinate units. Within their boundaries, units may fire and maneuver in accordance with the overall plan without close coordination with neighboring units unless otherwise restricted.”

### **Boundary in Communication Systems**

This is the province of communication theory, artificial intelligence and education. Boundary did not appear as a term in any of the several encyclopedias and dictionaries of education, higher education, or educational research appearing on the full bookcase allocated to education in the reference sections of the two research libraries.

A selected search of dictionaries and encyclopedias devoted to the broad notion of communication produced no entries for the term boundary. Boundary is, however, a concept defined in dictionaries of artificial intelligence (a sub-field of communication theory, the latter encompassing cybernetics,

cognitive science, artificial intelligence, and organizational communication to name a few). Dictionaries of artificial intelligence defined: boundary detection, boundary line, and boundary sets representation (Smith, 1989; Mercadal, 1990). Boundary detection is a procedure in visual processing to discriminate a body's outline. A boundary line is a line on the borders of an object including all contour lines—boundary lines are the contour lines plus the lines on the boundaries between objects. Boundary sets representation is "the information found in version spaces that determines the boundaries of the concept being learned" (Mercadal, 1990).

As in political science, in communication theory the systems approach is important, and the boundary metaphor pervades systems thinking (Weinberg, 1975). In organizational communication, though no dictionary or encyclopedic reference to boundary was located, a book reference that appeared during the wave one survey (Laumann et al., 1989) referred to the boundaries of social networks as the problem of specifying the rules of inclusion or who would be the actors or nodes in the network and what relationships among them would be studied. Also in a book, Jablin (1987) observes that in communication and organization theory, the concept of boundary refers mainly to the relationship between an organization and its environment. Yet, as Weinberg (1975) so thoughtfully observes, the boundary metaphor that permeates systems thinking can be misleading, as not all systems can be separated from environments in clean and sharp ways that systems diagrams can imply. Weinberg argues that the term "interface" ought to replace boundary, as interface focuses on both the connection and the separation between the system and the environment.

### **Boundary in Evaluation Systems**

Boulding's characterization of evaluation systems refers to evaluative learning that involves judgments such as goodness, truth, and beauty, and dilemmas such as survival versus destruction, and pain versus pleasure. Such questions are in part the province of disciplines like religion, ethics, and philosophy, where, it turns out, boundary is defined as a concept. In the *Dictionary of Philosophy and Religion*, for example, boundary maintenance, boundary situation, and the boundless are defined. The continuing identity of society depends in part on the availability of criteria for member identification (boundary maintenance); those situations (e.g., death, suffering) which set the limits of man's historical being are boundary situations; and space or the idea of the indefinite boundless provides a standard reference point for some explanations of change (Reese, 1980). The *Encyclopedia of Religion and Ethics* focuses on landmarks and boundaries, calling attention to land disputes, just boundaries, gods of boundaries, boundary stones marking sacred places, and beating the bounds or trips made to make sure that bounds and marks were not tampered with or to establish new ones in memory of people or events.

#### **4.4 A PRELIMINARY, INTERDISCIPLINARY DEFINITIONAL FRAMEWORK FOR BOUNDARY**

To begin to move this breadth of material toward a definitional framework, Table 18 highlights what boundary is as represented by disciplines in each of the seven systems as well as in the general dictionaries and encyclopedias. The table then extracts, from the discussion presented in this chapter, the various "domains of application" for boundary; since, for any concept, one must ask: "With respect to what?" What is to be bounded? What object do we have in mind? (Sartori, 1984; Riggs, 1984). The table lends itself to several observations.

TABLE 18.  
PRELIMINARY SYSTEMS-INTERDISCIPLINARY DEFINITIONAL FRAMEWORK FOR THE BOUNDARY CONCEPT

<u>WORLD SYSTEM</u> (world as:)	<u>A BOUNDARY IS:</u>	<u>WITH RESPECT TO WHAT?</u>	<u>ILLUSTRATIVE ASSOCIATED BOUNDARY TERMS:</u>
<p><b>GENERAL DICTIONARY</b></p> <p>(obviously not one of the seven Boulding systems, but included here as a baseline definitional reference)</p>	<ul style="list-style-type: none"> <li>• Ideas we receive from sensation and reflection</li> <li>• a line</li> <li>• a wall</li> <li>• a region</li> <li>• a frontier</li> <li>• a division</li> <li>• Setting limits</li> <li>• Defining</li> </ul>	<ul style="list-style-type: none"> <li>• Thoughts; areas of knowledge or practice</li> <li>• Parting domain of law from morality</li> <li>• Country, city, state, territory, land, animals, ridges</li> <li>• Equations</li> <li>• Anything</li> <li>• The limit itself</li> </ul>	<p>Boundless Boundary Rider Boundary Value Problem Frontier Border</p>
<p><b>PHYSICAL SYSTEM</b></p>	<ul style="list-style-type: none"> <li>• Set of abstract points</li> <li>• Set of quantitative values</li> <li>• Dividing line</li> <li>• A zone</li> <li>• Information</li> <li>• Rate of flow</li> <li>• Probability of membership</li> </ul>	<ul style="list-style-type: none"> <li>• Abstract space</li> <li>• Real space</li> <li>• Earth, land, ocean</li> <li>• Fluids and solids</li> <li>• Passage across the boundary -- movement</li> <li>• Likelihood of response</li> <li>• Ambiguous region</li> </ul>	<p>Boundary: condition, correspondence, property, value problem, variation, bounded operator, lubrication, layer</p> <p>Statistical boundary</p>
<p><b>BIOLOGICAL SYSTEM</b></p>	<ul style="list-style-type: none"> <li>• Surface layer</li> <li>• Transfer of information</li> </ul>	<ul style="list-style-type: none"> <li>• Gas or liquids</li> <li>• Cells</li> <li>• Extracellular environments</li> </ul>	<p>Boundary layer Cell membrane</p>
<p><b>SOCIAL SYSTEM</b></p>	<ul style="list-style-type: none"> <li>• An area (which is bounded and has content), not a space (which is boundless)</li> <li>• A symbol</li> <li>• A natural or artificial separation</li> <li>• Nature and frequency of communication and interaction</li> <li>• Limits to capacity, time, access</li> <li>• Ways of maintaining distinctions</li> <li>• Social space</li> <li>• International law</li> <li>• A treaty</li> </ul>	<ul style="list-style-type: none"> <li>• Earth</li> <li>• Estates (land)</li> <li>• Territories; human settlements</li> <li>• Cultures</li> <li>• Enclaves and exclaves</li> <li>• Political states</li> <li>• Role of a person in a group</li> <li>• Workable rather than optimal solutions</li> <li>• Regions where groups have common ideas of their environment</li> </ul>	<p>Boundary disputes Area, culture area, enclave, exclave Frontier, liminality, role Systems analysis, systems theory States Center-periphery; walls Borderline personality disorder Bounded rationality</p>



TABLE 18 (continued).

<u>WORLD SYSTEM</u> (world as:)	<u>A BOUNDARY IS:</u>	<u>WITH RESPECT TO WHAT?</u>	<u>ILLUSTRATIVE, ASSOCIATED BOUNDARY TERMS:</u>
<b>ECONOMIC SYSTEM</b>	<ul style="list-style-type: none"> <li>• Not defined as such in dictionaries / encyclopedias examined</li> </ul>		
<b>POLITICAL-ADMINISTRATIVE SYSTEM</b>	<ul style="list-style-type: none"> <li>• Limits</li> <li>• Delimitation</li> <li>• Loci of contact, exchange, conflict</li> <li>• Process whereby inputs from other systems are matched by outputs from political system</li> <li>• Statements on a map or chart</li> <li>• A control measure</li> </ul>	<ul style="list-style-type: none"> <li>• Political systems</li> <li>• Power</li> <li>• Areas of tactical responsibility on land</li> <li>• Law</li> <li>• Territory, land</li> <li>• War</li> </ul>	<p>Boundary: exchange, disputes, disclaimers</p> <p>Artificial boundary, defacto boundary, dejure boundary, natural boundary</p> <p>Territorial disputes, positional disputes, resource disputes, functional boundary disputes</p>
<b>COMMUNICATION SYSTEM</b>	<ul style="list-style-type: none"> <li>• Discrimination</li> <li>• Information found in version spaces</li> <li>• Contour lines</li> <li>• Lines on boundaries between objects</li> <li>• Rules of inclusion</li> <li>• Relationship</li> </ul>	<ul style="list-style-type: none"> <li>• Body's outline</li> <li>• Boundaries of concept learned</li> <li>• Membership in a network</li> <li>• Border of an object</li> <li>• Who are actors or relationships in a network</li> <li>• Connection between organization and environment</li> </ul>	<p>Interface</p> <p>Boundary detection, boundary line, boundary sets representation</p> <p>Systems approach</p>
<b>EVALUATION SYSTEM</b>	<ul style="list-style-type: none"> <li>• Criteria for member identification</li> <li>• Limits</li> <li>• Boundless is space or idea of the indefinite</li> </ul>	<ul style="list-style-type: none"> <li>• Identity of society</li> <li>• Bounds of man's historical being</li> <li>• Reference point for change</li> </ul>	<p>Boundary maintenance, boundary situation, boundary stones</p> <p>The boundless</p> <p>Identity</p> <p>Landmarks</p>

Boundary is a thing, natural or artificial, concrete or symbolic, narrow or zonal, precise or probabilistic, a limit to be created and maintained. Events occur at and within boundaries. Boundaries are highly charged places of contact, information, exchange, and conflict as well as ritual. Information and other matter-energy flows through boundaries, with the boundary itself setting limits on the what, when, how, and with what rate. Boundaries give shape or form.

In general, boundary (serving dividing, shaping, and limiting functions) is asserted to apply to virtually anything, a scope not too helpful for rigorous analysis. But in specific domains, narrower targets emerge. In physical systems, boundaries are found or set for real or abstract areas such as land or oceans. The range suggested in Table 18 is summarized below. Boundaries are applied to or set for or found in:

- *Land*: earth, estates, territories
- *Water*: oceans, liquids
- *Political Entities*: states, enclaves, exclaves, regions
- *Groups*: membership in a society, network
- *Activities*: birth, death, war, conflict
- *Behaviors*: power, role
- *Processes*: learning
- *Notions*: ideas, beliefs, attitudes, perceptions, thoughts, identity
- *Laws*: treaties, solutions.

This list does little to dispel the notion that boundaries apply to everything. Perhaps that is both the appeal and the difficulty of exploring what happens at boundaries, how they are created and maintained, why they are important, how to know that they are healthy, how they are changed, why, and with what

results. Answers to such questions obviously take on precise meaning within systems or within disciplines.

It was indeed fascinating to discover that boundary is a concept in its own right in physical, social, political-administrative, communication, and evaluation systems, and that it is a more implicit notion in biological and economic systems, at least as reflected in discipline-specific dictionaries and encyclopedias. Three impressions stood out: one that it might be important to distinguish area (bounded) from space (unbounded); the second, that boundaries are places of potentially high information and power; and third, that boundary focuses on separation rather than connection. Finally, the legitimacy a discipline attaches to a concept may or may not be a function of the legitimacy and importance a discipline attaches to its dictionaries and encyclopedias. It was clear that the latter task is treated differently in various disciplines (e.g., the *Encyclopedia of Social Sciences* is current only as of 1968). Nevertheless, to uncover fundamental notions, these are certainly one set of sources to which a reasonable inquirer would turn.

**CHAPTER 5**  
**WAVE THREE—THEMATIC APPROACH TO BOUNDARY**  
**USING SYNTHETIC ARTICLES OR BOOKS**

"Each boundary is almost unique and therefore many generalizations are of doubtful validity (Jones 1945, p. vi)."

"It is now widely accepted that boundary is a general concept and that all boundaries share certain properties, attributes, and functions (Clark, 1994, p. 68)."

"In the sky there is no distinction of east and west; people create distinctions out of their own minds and then believe them to be true (Buddha in Minsky, 1985, p. 134)."

The third wave of the interdisciplinary survey searches for broad issues and themes that have been developed in books and journal articles which themselves have aimed, in one way or another, at a synthesis of the state of boundary studies and practice. The searches conducted in the prior waves provided a rich database that suggested candidate references to be examined. The wave three survey produced three sets of findings: (1) A sense of why the study and practice of boundaries is important; (2) Preliminary identification of people who might be considered illustrative "boundary theorists" in that they seek to develop boundary as a cumulative concept with a frame of reference and areas of practice; and (3) Major thematic areas that summarize, preliminarily, how boundary theorists articulate boundary as a general concept. As with all elements of this survey, a comprehensive review of boundary studies is not possible within the scope of this dissertation. Authors and their works should be regarded as illustrative of those who have written generally on the subject, especially spanning the years 1900 to 1995, though even those parameters are not rigid.

## 5.1 BOUNDARY THEORISTS AND THEMES

Table 19 identifies 20 authors or author pairs who might be considered illustrative boundary theorists. They are the principal data base from which statements are made in this chapter. Boundary theorist is a term that appears in the literature of political geography and international relations, and is here used as a broad label into which authors concerned with various facets of boundary might be positioned.

Table 19 clusters the boundary theorists according to the six major disciplines they represent: political geography; law and international development; economics; philosophy; political science-public administration-public policy-organization theory; and social psychology and futures. Political geographers did much of the initial work, focusing on land boundaries, during the first part of the twentieth century. Recent work in economics, philosophy, organization theory, and social psychology suggests boundary theorists are emerging to focus attention on other than land boundaries or on additional aspects of land boundaries. To fully appreciate the term boundary, though, requires that theorists from all these disciplines be examined.

After identifying illustrative boundary theorists, Table 19 then associates each theorist with one or more of the major themes that emerged during this preliminary search of their work. Two broad categories of themes were identified: (1) foundational work on boundaries (encompassing basic terminology, perspectives and methodology, and history), and (2) the dynamics of boundaries (encompassing boundary: making, change, conflict and power, problems, spanning and learning, to name a few). Highlights of information relevant to each of these themes, as well as a broad theme concerning the importance of boundaries, are presented in the next sections.

**TABLE 19.**  
**ILLUSTRATIVE BOUNDARY (B) THEORISTS AND SELECTED MAJOR THEMES**

THEORIST	I. FOUNDATIONAL WORK			II. BOUNDARY DYNAMICS				
	B-DEFNS, TYPES, FUNCTIONS	CONCEPTUAL ORIENTATION	HISTORY OF BOUNDARIES	BOUNDARY MAKING	BOUNDARY CHANGE	BOUNDARY CONFLICT	BOUNDARY SPANNING	BOUNDARY- LESS
<b>ECONOMICS:</b> • Boulding (1962) • Clark (1994) • Ohmae (1990)	X X				X	X X		X
<b>LAW; INTERNAT'L DEVELOPMENT</b> • Johnston & Saunders (1988) • Johnston (1988)	X	X	X	X	X			
<b>PHILOSOPHY:</b> • Brown & Shue (1981) • Fisher (1990) • Mosher (1991)	X			X X	X X	X X		
<b>POLITICAL GEOGRAPHY:</b> • Boggs (1940) • Jones (1945, 1959) • Kasperson & Minghi (1959) • Kristoff (1959) • Prescott (1965, 1987)	X X X X	X	X X X	X X X	X	X		
<b>POLITICAL SCIENCE, PUBLIC ADMIN, ORG THEORY, POLICY:</b> • Fesler (1949) • Strassoldo (1977) • Kratochwil (1986) • Oliver (1993)	X X X	X	X	X X	X X	X X	X	
<b>PSYCHOLOGY, SOCIAL PSYCHOLOGY, FUTURES:</b> • Reusch (1967) • Michael (1993, 1995) • Whitfield (1993)	X X X	X	X	X X	X X	X X	X	X

Three limits should be noted with respect to the table and the comments that follow in this chapter. First, the hard/natural sciences are noticeably absent as a distinct discipline, except as they may be represented within the areas identified. Second, the viewpoint of most, if not all of these theorists will be western (e.g., American, European) as opposed to eastern (e.g., Chinese, Japanese). Third, other analysts might produce a different classification and accompanying emphases.

A summary statement is that Table 19 suggests that, among the set of boundary theorists represented, highest concentrations of work have been devoted to boundary definitions, types, and functions (foundational aspects), and to the dynamics of boundary making, boundary change, and boundary conflict. They have collectively given less emphasis to the history of the boundary concept and to generic conceptual orientations within which to view it. Boundary spanning and boundaryless, in the boundary dynamics section of Table 19, show the least emphasis among this theorist set, perhaps because the latter are emerging themes in particular disciplines (e.g., business and management).

## **5.2 THE IMPORTANCE OF BOUNDARIES**

Boundaries are potent with human significance (Boggs, 1940). Boundaries are frequently the subject of misunderstanding. Acts that create, maintain, and break down boundaries—e.g., between knowledge units, nations, individuals, institutions, or policies—symbolize the distribution of power in society and define the terms of its progress (e.g., Fisher, 1990). Boundaries are relevant not only to the development of science (social, political, ecological), but also to the formation of attitudes and values of political importance (Strassoldo, 1977). They are indeed “the razor's edge on which hang suspended the modern issues of war and peace” (Lord Curzon in Clark, 1994).

The study of boundaries encompasses how they emerge, develop, and disappear; how to determine their value, good or bad; and how they represent the lines of contact that afford opportunities for both cooperation and conflict. During the first half of the twentieth century, boundaries were the most popular topic in political geography (Taylor, 1985). That focus is much shifted today as interest in boundaries per se seems to emanate now more from disciplines like cognitive science, futures, economics, and organization theory. Nevertheless, awareness that boundaries are important is pervasive. In whatever guise, they are foundational in that they appear to be a precondition for identity, autonomy, and responsibility.

Much of the research on boundaries has been conducted strictly within the domain of a discipline without reference to the knowledge of efforts in other fields (Clark, 1994). Though there are likely still theorists of the view that each boundary is unique and therefore generalization is of doubtful utility (Jones, 1945), recent work, principally in the organizational-social-behavioral sciences hints at the emergence of a field of boundary studies that incorporates the work from physical geography though less the work from the physical sciences (Clark, 1994; Oliver, 1993; Michael, 1995). Those who see a field of boundary studies believe that general knowledge about the properties, attributes, and functions that all boundaries share is essential to bring to bear on the study of particular boundaries.

Though boundary is important in its own right, there also exists the view that it is unrealistic to dissect "the boundary" from the state or the land or the idea to which it belongs (e.g., Ratzel in Prescott, 1965). This underlines the fact that research and knowledge on boundaries, though scattered, is generally linked to a particular focus (such as land or social relations). Hence, anything generically called "boundary studies" is likely a mix of discipline-specific and general knowledge.



### 5.3 FOUNDATIONAL WORK ON BOUNDARIES

Foundational work focuses on boundary definitions, types, and functions. It also discusses conceptual perspectives and approaches to boundary study and practice, and covers the sometimes one hundred or more years of history on the subject.

#### Boundary Definitions, Types, and Functions

Most of the theorists make an effort to define boundary. Some go beyond that to delineate boundary types and the functions they serve.

Much work has gone into distinguishing boundary, frontier, border, and periphery. Most regard boundary as different from frontier (e.g., Kristoff, 1969; Boggs, 1940; Clark, 1994; Prescott, 1987), though Strassoldo (1977) thinks the distinctions are blurry and Kristoff (1969) suggests both are manifestations of socio-political forces and as such are subjective rather than objective. Recent work argues that most, if not all, frontiers have been replaced by boundaries (e.g., Taylor, 1985; Prescott, 1987). Table 20 summarizes the distinctions between the two terms.

TABLE 20.  
BOUNDARIES vs. FRONTIERS

Boundaries	Frontiers
<ul style="list-style-type: none"><li>• Inner-oriented; implying territorial units</li><li>• Fixed, rationally enforced</li><li>• A definite line of separation</li></ul>	<ul style="list-style-type: none"><li>• Outer-oriented; That which is in front</li><li>• Result of spontaneous, ad hoc solutions</li><li>• An ill defined region or zone of contact</li></ul>

When the terms border and periphery are added to the above mix, things get a bit more complex. Strassoldo (1977) and Clark (1994) say that border is

usually zonal while boundary is a fixed line: a border is the zone surrounding the boundary line. The frontier is "more areal and mobile, advancing and retreating, territorial, functional, or symbolic. While boundary has had peculiar fortune with systems thinkers, frontier has had wider currency with geographers, historians, economists, and philosophers, with predictably different outcomes" (Strassoldo, 1977, p. 87). Periphery evokes the concept of a center or core, whereas boundary marks the differentiation between a system and its environment (Strassoldo, 1977). Centers are easier to agree upon than peripheries.

Those who define boundaries often take the next step to specify some sort of boundary typology. The result is a morass of schemes, ranging from comprehensive to discipline-specific (see Table 21 for examples). The broadest schemes distinguish the basis of a boundary as physical (real, concrete) from boundary as non-physical (artificial, symbolic, social) (e.g., see Strassoldo, 1977; Kasperson & Minghi, 1969). Others offer little in the way of formal classification and simply suggest the range of different types (e.g., Michael, 1995, Johnston, 1988). Discipline-specific schemes generally bypass the comprehensive problem of how to divide the world and get right into the boundaries of particular interest. Table 21 shows examples of these more specific classifications, such as individual versus social boundaries, and administrative versus natural boundaries. Early on, Jones (1945), seeing the complexity of the typological task, simply said he would offer no theory or classification of boundaries; instead, he would refer to that used by others. Johnston (1988) and Strassolodo (1977) take the other approach, which is to attempt to synthesize the work of others into schemes that will help to focus the boundary task at hand.

TABLE 21  
EXAMPLES OF BOUNDARY TYPOLOGIES

COMPREHENSIVE TYPOLOGIES	DISCIPLINE-SPECIFIC TYPOLOGIES
<p>1) <i>Physical vs. Social; Spatial vs. Non-Spatial:</i> Boundaries can be distinguished for (1) concrete (physical) systems versus those for (2) social (symbolic) systems. For the social system, boundaries are spatial (e.g., nation state) and non-spatial (e.g., images, ideas, attitudes, perceptions). (Strassoldo, 1977)</p> <p>2) <i>Numerous:</i> Types of boundaries theorists have suggested include: (1) international and intranational (federal, municipal, communal) boundaries; (2) natural and artificial or geometric (astronomical, mathematical) boundaries; (3) formal (legal) and informal (understood) boundaries; (4) political, cultural, and administrative boundaries; (5) unilateral (imperial) and bilateral (transactional) boundaries; and (6) territorial and functional boundaries. (Johnston, 1988)</p> <p>3) <i>Numerous:</i> Boundaries are: physical, temporal, ideological, territorial, factual, conceptual, procedural, relational, organizational. (Michael, 1995)</p>	<p>1) <i>Individual vs. Social:</i> (1) Individual viewpoint versus (2) social viewpoint. Individual viewpoint includes boundaries as membranes, sense organs, with function of boundary to hold organs together and to maintain self respect. Social viewpoint includes boundaries as identification of person, family, organization, or nation by role, function, and purpose, with function of boundary to hold these elements together so as to preserve tradition and the communication system. (Reusch, 1967)</p> <p>2) <i>Military vs. Non-Military:</i> The most real distinction in boundaries is between military and non-military boundaries. The natural versus artificial distinction is the most unreal. Other types are: physical boundaries which follow some feature marked by nature; geometrical boundaries that disregard physical geography and topography, anthropogeographic types related to human occupants of the land, and complex or compound boundaries. (Jones, 1945)</p> <p>3) <i>Administrative vs. Natural:</i> Through government, a luxuriant growth of administrative areas has taken place on top of natural areas. Administrative areas of of three types: general governmental area, special or limited purpose governmental area, field service area. (Fesler, 1949)</p> <p>4) <i>Organizational:</i> Organizational boundaries are those of: (1) membership, (2) role set, (3) sphere of influence (power, control), (4) transaction cost (market choice for transactions), and (5) institutional filter (social and cultural legitimacy and social validity). (Oliver, 1993)</p> <p>5) <i>Moral-Legal; Moral-National:</i> Boundaries can be distinguished by three types of law: law of nature (scientific law), natural (moral) law, and jural (man-made) laws. (Kristof, 1969) National boundaries are moral boundaries which settle questions of membership and justice (Brown &amp; Shue, 1981)</p>

In addition to distinguishing boundary from frontier, border, and periphery, and classifying boundary types, boundary theorists further define the term and specify the functions various boundaries serve. Table 22 shows examples that illustrate the role of boundaries as rules, habits, and perceptual arrangements we make to establish and maintain our identity.

**TABLE 22**  
**BOUNDARY DEFINITIONS AND FUNCTIONS**

Boundary Definitions	Boundary Functions
<p>Boundaries:</p> <ul style="list-style-type: none"> <li>• are perceptual arrangements we use to separate or unite, differentiate and connect ourselves to the world (Michael, 1995)</li> <li>• are sets of rules which tell us how to distinguish two classes (Reusch, 1956)</li> <li>• are fundamental means by which we reify and operate our social constructions of reality, our myth systems (Michael, 1995)</li> <li>• the skin of the living state (Ratzel in Prescott, 1965)</li> </ul>	<p>Boundaries:</p> <ul style="list-style-type: none"> <li>• establish and maintain rules and expectations, hence behavior, reward, sanctions (Michael, 1995)</li> <li>• keep threats outside, give support inside (Michael, 1995)</li> <li>• help us establish and maintain habits (Michael, 1995)</li> <li>• provide defense and allow exchange to occur (Ratzel in Prescott, 1965)</li> <li>• define membership, roles (Brown &amp; Shue, 1981; Oliver, 1993)</li> </ul>

### **Conceptual Perspectives**

Two perspectives, not mutually exclusive, have formed the orientation or broad frame of reference within which the term boundary takes on significance.

The first is the systems approach or general systems theory. To think in terms of systems is to think in terms of boundaries, environments, wholes, processes, and relationships (e.g., Strassoldo, 1977; Jablin, 1987). Related to the systems approach, the study of boundaries has demonstrated shifts in emphasis from looking at the form of boundaries and their location (i.e., structure) to the functions boundaries perform (or the functional aspects of structure) and to the

processes that are involved with boundary interaction (Clark, 1994). Structural-functionalism was well established as the leading school of thought in sociology by the mid-1950s, receiving its original articulation in social anthropology in the 1930s, where it emphasized the interrelatedness of different aspects of culture (Harmon & Mayer, 1986, p. 159).

The second, often related lens through which the study of boundaries attains significance is through the perspectives represented by particular and eclectic areas of knowledge. This approach was illustrated in Chapter 4 of the dissertation, using an adaptation of Boulding's (1985) seven systems we use to perceive the world. To that approach, boundary theorists like Johnston (1988) would add what he regards as the most comprehensive, least reductionist approach to boundary theory, *viz.*, the managerial approach, which incorporates both general systems thinking and the knowledge of particular disciplines, but with a focus on the administrative purpose of boundaries. He argues:

. . . each of the five conceptual frameworks outlined above (physical, political, socio-cultural, economic, juridical) can be seen to be unduly limited. The need for a more comprehensive, less reductionist approach to boundary theory can be met more readily by combining them with an all-encompassing framework that might be characterized as managerial. . . . The most obvious weakness of the managerial frame of reference is that it lacks the conceptual tightness or rigor of a disciplinary framework (p.24).

### **History of Boundaries**

The third area of foundational work on boundaries concerns their history. Johnston (1988) suggests that the literature on boundary making is at least 100 years old. Johnston identifies three important points: (1) most thinking about the subject has been derived from experience on land, (2) the oldest writings

have been supplemented with numerous detailed case studies of specific boundary disputes, and (3) in recent years, psychologists, anthropologists, political scientists, and sociologists have concentrated on the behavioral aspects of boundaries. Whitfield (1993) would take strong issue with Johnston. Whitfield says the history of boundaries is at least 2,500 years old, and traces the idea to the Buddha who began to describe aspects of the individual self or true self. Later psychologists and psychiatrists distinguished the boundaries between the true self and the false self. Much of this historical work focuses on the evolution of our thinking about individual identity and instances of healthy and unhealthy personal relationships.

Jones (1959) outlined another comprehensive historical treatment of boundary concepts. His survey traces boundary concepts in the following areas: tribal boundary concepts, Asian boundary concepts and practices, Roman boundary concepts, Medieval Europe boundary concepts, the concept of natural boundaries, nationality and boundary concepts, imperialism and boundary concepts, the contractual concept of boundaries, the concept of geometrical boundaries, and power-political boundary concepts. Jones' illustrations of changing notions of boundary range from the Chinese Great Wall, to the German concept of boundaries based on folk or nationality (language), to the American desire to show contractual title to land, and to the boundary as a truce line between territorial power structures. If anything is illustrated by the Jones, Johnston, and Whitfield surveys, it is the wisdom of taking a dynamic, multi-perspectival and historical view of boundaries.

#### **5.4 DYNAMICS OF BOUNDARIES**

In addition to foundational work, boundary theorists have studied boundary dynamics, looking at the processes, flows of activity, and results that occur at and around boundaries. Boundary dynamics include work on boundary

making, boundary change, boundary conflict and power, boundary spanning and learning, and boundary problems.

### **Boundary Making**

A major theme in boundary dynamics is how boundaries are made or drawn. The framework that emerges from this emphasis is a notion of boundary making as a continuous process among: (1) actors and roles in boundary making, (2) phases of boundary making, and (3) outcomes of the process (e.g., Johnston & Saunders, 1988; Jones, 1945). The point is made that boundary making is influenced by factors such as values (e.g., of security, self-respect, wealth, knowledge, efficiency, justice); interests; attitudes (e.g., environmental, professional, personal); technology; culture or milieu; and time.

Obviously depending upon the boundary of interest (e.g., psychological versus national), actors and roles in the boundary making process include individuals as well as public administrators, diplomats, advocates, therapists, legislators, and judges, acting singly or in some cases organized into commissions. Phases of boundary making described for land boundaries involve a passage from allocation of a territory or initial (political) division of territory, to delimitation of a specific site for the boundary or selection of the boundary site and its definition, eventually to demarcation of a specific boundary line or construction of the boundary in the landscape. A major outcome of the boundary making process is a boundary settlement or arrangement that includes how the boundary will be maintained or administered. Taking a more psychological perspective, Whitfield (1993) speaks of boundary making as a creative, maintaining, and flexible dynamic, and, speaking of the self boundary, discusses making and using healthy as opposed to unhealthy boundaries.

### **Boundary Change**

As early as 1940, Boggs was observing the changing role of boundaries in a changing world. More recently, Clark (1994) notes that scholarly interest in boundaries is especially strong during times of great boundary change and weak at other times. If this pattern holds, Clark thinks recent changes in boundaries throughout the world promise a much renewed interest in the topic. The boundary theorists examined in wave three of this survey illustrate both historical and contemporary interest in the topic. They discuss specific characterizations of what boundaries are changing and why, and suggest the accompanying implications.

Many international boundaries are in a state of flux for the first time since 1945 (Clark, 1994), though Boulding (1962) observes this is altogether to be expected:

. . . because of the slowly changing relative power of nations, the existing structure of boundaries gets more and more obsolete and is subject to greater and greater strain . . . eventually the strain gets too great for the system of diplomacy and war breaks out (p. 265).

But to focus on international boundaries is too limited a view of boundary change. Michael (1995) argues that today, it is not war but the exponential increase in information, made possible in part by information technology, that is shifting, blurring, and otherwise changing and challenging the dominant mythologies which are maintained and expressed by boundaries—whether physical, ideological, factual, procedural, organizational, personal, or relational. Today, Michael (1995) argues, the important boundaries are “. . . determined less by material circumstances such as geography and more by concepts, relationships, and flows of information in the form of money and other symbols.” (p. 3) Indeed, the global economy, following its own logic, develops



webs of interest which rarely duplicate historical borders between nations—governments and national boundaries they represent become invisible in this kind of search (Ohmae, 1990).

The implications of asserted, pervasive contemporary boundary change, in the theorist set examined here, focus principally on governance and learning, and alternatives to rigid, fixed notions of boundary. Minsky (1985) goes so far as to assert that we are always changing perceptual boundaries, and that we could never learn anything if we did not. Yet Michael (1993) points out that our dominant metaphors encourage just the opposite: they encourage the maintenance of boundaries that contribute to our inadequate responses to the problems and opportunities of an information society. To undertake the task of interpreting and designing new boundaries is a major learning task facing governments, businesses, and individuals in all societies (Michael, 1995; Ohmae, 1990). Yet that is much easier said than done. Boulding (1962), for example, thinks it is important for nations to specify a critical boundary—the one that absolutely cannot be violated but that exists within a series of shells of boundaries of varying degrees of importance. Fisher (1990) illustrates a case of deliberate boundary change—the founding of the Social Science Research Council—which created a new boundary around the social sciences and simultaneously broke down the boundaries between social disciplines. Though Jones (1945) cautioned that ultimately it may prove easier to change boundary functions than to change boundaries themselves, several more recent boundary theorists are suggesting both are happening today. Kratochwil (1986) underlines the contradictory tendencies manifest in contemporary international life: *The first tendency is the universal recognition of territorial sovereignty as the differentiating principle in the international arena. A second, conflicting trend, is the erosion of boundaries through the increasing interdependencies of modern economic life.*

### **Boundary Conflict and Power**

In addition to boundary making and boundary change, a third boundary dynamic includes boundary conflict, boundary disputes, and boundary power.

Boundaries are frequently areas of friction and conflict as they are typically the meeting place of at least two entities, though a place where free interaction is not often the case (e.g., Clark, 1994). Boundary conflict, boundary disputes, and boundary power are terms used to describe the range of tensions and disagreements that can occur over all sorts of boundaries. Though the most usual described in the selected literature reviewed here was the boundary conflict in physical or geographical space, as early as 1962, Boulding, and then Prescott in 1965, saw that boundary conflicts and disputes might be applied conceptually to any vector space. In addition to numerous case studies that describe particular boundary disputes and resolutions, two themes are discussed: types of boundary conflicts and a general framework to understand and act on boundary conflict. Clark (1994) goes so far as to characterize boundary conflict as a boundary "disease" especially when the conflict is illegal or results in dysfunctional economic behaviors. He attributes that characterization to the work of J. V. R. Prescott.

Boundary conflicts have been characterized as line versus no-line (Boulding, 1962); international versus internal (Prescott, 1965); economic (Clark, 1994); and social psychological (Whitfield, 1993; Reusch, 1967). A line boundary conflict is one where individuals occupy mutually exclusive contiguous areas, and any move of the boundary line will make some groups larger and others smaller. A no-line boundary conflict or ecological conflict occurs where groups interpenetrate each other in physical or social space and there is no line boundary between them but there is conflict over the total mass of living matter that a given habitat can support. International boundary disputes can be territorial, positional (locational), functional, or resource based, and arise

between modern states. Economic boundary conflicts concern the economic vitality of border zones surrounding boundary lines, and involve such items as tax and trade and transfer costs (e.g., tolls). Psychological boundary conflicts are characterized as conflicts between the ego and superego or ego and id (resulting in ambivalence), or illegal transactions, or even boundary invasions.

Psychological boundary conflicts can also be distinguished according to conflicts with the here and now, conflicts with the past, or conflicts resulting from the past.

Boulding (1962) and Prescott (1965, 1987) each offer general frameworks of concepts within which to analyze and take action in boundary disputes. Prescott says analysis of any boundary dispute should provide information on: the cause of the dispute, the trigger action, the aims of those initiating the boundary dispute, the arguments used by each side to justify the positions adopted, and the consequences or results. Boulding speaks even more generally, saying the critical analytic elements are: the behavior unit, the behavior space, awareness of incompatible positions, conflict, and the boundaries of possibility (best position possible), indifference, and equal strength.

### **Boundary Spanning and Boundaryless**

A fourth boundary dynamic can be identified, though it is more emergent than a dominant theme amongst the theorists reviewed here. Boundary spanning is described by Michael (1993, 1995) and Oliver (1993), the former from the vantage of governance and society, the latter from the perspective of organization theory. Boundaryless is a focus of Ohmae (1990) and is mentioned by Whitfield (1993).

Michael argues that in an information society, the capability to span boundaries appropriately is a key attribute of the learning competence required

from government and individuals alike. He includes spanning across jargon, goals, operating styles, and norms within government and with external stakeholders. He also notes that information technologies have unlimited boundary spanning potential. Oliver (1993) describes boundary spanning more as a set of roles occupied by individuals who operate at the periphery of an organization, roles that focus on information acquisition, processing, and exchange. According to Oliver, boundary spanners:

. . . monitor and scan the informational environment, defending the organization against information overload and influence, filtering and facilitating the flow of information in and out of the organization, and directing information to relevant internal and external constituents (p. 4).

The greater the decision making uncertainty, the higher the need for organizational boundary spanning activity.

Boundaryless appeared even less than boundary spanning in this literature set, but frequency is surely no measure of importance in an illustrative survey. Whitfield, speaking psychologically, considers boundarylessness and its opposite, overly rigid boundaries, as a basically unhealthy or "co-dependent" state, that generally requires years of therapy to overcome and replace with a healthy capacity for self-identity and setting clear, but flexible personal boundaries in the relationships of life. By contrast, Ohmae (1990) describes a borderless world created by an interlinked information economy. What is borderless is the traditional national borders of countries, made so by the emergence of:

. . . an Interlinked Economy (ILE) of the Triad (the United States, Europe, and Japan) joined by aggressive economies such as Taiwan, Hong Kong, and Singapore. . . . The ILE has created much confusion, particularly for those who are used to . . . comparing one nation against another. Their theories don't work anymore (p. xi).

Ohmae believes the implications of such boundarylessness are that old beliefs have to be let go, including the fact that national borders have little to do with the real flows of industrial activity. The real sources of strength are information and knowledge, which, at a minimum, redefine the terms and perception of many of the boundaries with which we are presently familiar. He says:

The linkages vary but the pattern is clear: The global economy follows its own logic and develops its own webs of interest, which rarely duplicate the historical borders between nations. As a result, national interest as an economic, as opposed to a political, reality has lost much of its meaning. And as information about products and services becomes more universally available, consumers everywhere will be able to make better-informed choices about what they want. It will matter less and less where it all comes from. Governments—and the national boundaries they represent—become invisible in this kind of search. They have no direct role to play. There is no call for them to continue to pick and choose which products can be produced or sold or to decide which are good and which bad. The economic interests to be served are those of individual consumers. Governments do not need to insulate or protect them from the offerings of multinational companies. Consumers can make their own choices. And they do (Ohmae, 1990, p. 183).

While boundary spanning and boundaryless both have rings of creativity, innovation, and change in boundary theory and practice, such notions can also have a dark, sometimes violent side, as witnessed in the emerging documentation of para-military groups in the United States who, in part, fear the dissolution of nation-states. All of which is simply to say, boundary change—whether boundary creation, conflict, spanning, dissolution, or blurring—is fundamental and nowhere near being fully comprehended, in theory or in practice.

**CHAPTER 6**  
**SUMMARY AND IMPLICATIONS**  
**OF THE INTERDISCIPLINARY SURVEY OF THE BOUNDARY CONCEPT**

This chapter marks the conclusion to the interdisciplinary survey of the boundary concept, and is also a mid-point in the conduct of this inquiry. To inform this transition, it would thus be well to restate the purpose and objectives of the dissertation and those of the interdisciplinary survey just completed. With that background, Chapter 6 can then profitably summarize and synthesize the three waves of the interdisciplinary survey, link them to the public administration case studies, and use that emerging understanding to suggest immediate next steps.

To recap, the purpose of the dissertation is to produce a conceptual foundation for boundary as a formal concept, and especially how it could link public administration theory and practice at key interfaces in the two case studies. As one prong necessary to develop that conceptual foundation, Chapters 3, 4, and 5 have reported the approach and results to three waves of an interdisciplinary survey pursuing, preliminarily, how the boundary concept is understood and used in a wide range of areas. More specifically, the survey, which will now be synthesized, sought to develop an overall guidebook (Kaplan, 1964) to the subject matter of boundary, one that would identify a preliminary and emerging generic boundary lexicon (or anatomy of categories associated with the concept), and an accompanying physiology of basic boundary propositions.

The bulk of the synthesis to be reported in this chapter is conducted within the sphere of the social-behavioral-political-humanities and from a western (as opposed to an eastern) orientation. Most of the lexical categories that emerged from within the hard (physical) sciences have not been

incorporated, as this analyst lacks the preparation to understand enough about those categories to be able to consolidate them meaningfully within the physical sciences, much less to integrate them with the more human perspectives. That limit can most assuredly be overcome in the future with the addition (to this research program) of analysts possessing training in the physical sciences.

### **6.1 AN EMERGING ANATOMY: A BOUNDARY LEXICON**

A major finding from the interdisciplinary survey was that the subject matter of boundary can be organized according to (1) boundary foundations and (2) boundary dynamics. The lexical guidebook—the essence of a boundary grammar—that emerges for each of these categories is displayed in Table 23 (for boundary foundations) and Table 24 (for boundary dynamics).

Table 23 shows the major sub-categories associated with foundations of the boundary concept to be: boundary theory; goals, values, significance, and functions of boundaries; types of boundaries, and terms associated with boundary. Table 24 shows the major sub-categories associated with boundary dynamics to be: boundary roles, boundary properties, boundary processes, and boundary infrastructure. Two additional items are included as sub-categories within boundary dynamics, *viz.*, boundary spanning and boundaryless. The latter might properly be classified within the sub-category of boundary processes, but have not been at this time due to a need for additional information (see below).

The boundary lexicon thus displayed includes both information derived from the three successive waves of the interdisciplinary survey and information about boundary categories identified in the two experiences that stimulated this inquiry. That is to say, the boundary categories identified in the

two reports on relationships between Congress and the executive branch (*Beyond Distrust*, and *Who Makes Public Policy*) and the boundary categories identified in the Stennis Congressional Staff Fellows program, are incorporated into the summary lexicon displayed in Tables 23 and 24. The synthetic lexicon represented there thus includes boundary categories from chapter 1 (empirical points of departure), and from chapters 3, 4, and 5 (comprising the interdisciplinary survey).

## 6.2 AN EMERGING PHYSIOLOGY: SOME BOUNDARY PROPOSITIONS

Knowledge about the boundary concept, particularly in the realm of the social-behavioral-political sciences and the humanities, might be summarized, based on the information reviewed thus far, with respect to assertions and propositions suggesting: (1) the essence of the boundary concept, and (2) changing notions of that concept. What follows, in short, are the accompanying messages that stand out for me.

Boundary is indeed a fundamental notion, and great humility is called for in any attempt to distill it. The essence of boundary—its *ding an sich*—appears to be division, separation, limits. A boundary divides, separates, sets limits, or is the limit itself. Sometimes it is a line, sometimes it is a region or a zone, probably the concept incorporates both. Boundaries give shape and form (or the human perception of such)—to land, water, political entities, groups, activities, ideas. What goes on at the boundary says a great deal about what happens beyond or in the immediate surround of the boundary. Boundary refers to area and content. Boundless refers to space (unbounded). Boundaries are loci of contact, exchange, conflict, and matter-energy flows. But the defining feature, at least in the west and for the authors reviewed here, is separation, and therein, as several authors point out, lies both the strength and the



TABLE 23

## EMERGING ANATOMY OF THE BOUNDARY CONCEPT: A BOUNDARY LEXICON—PART I: FOUNDATIONAL WORK ON BOUNDARIES\*

BOUNDARY THEORY	BOUNDARY GOALS / VALUES / SIGNIFICANCE / FUNCTIONS	TYPES OF BOUNDARIES	ASSOCIATED TERMS (important to the essence of boundary)
1) Boundary theorists	1) Authority	1) Artificial boundary	1) Frontier
2) Boundary concepts and practices; conceptual orientations (e.g., systems approach, managerial - administrative approach)	2) Boundary continuity, maintenance	2) Institutional boundaries (e.g., between constitutional branches, between organization and environment)	2) Border
3) Boundary methods	3) Boundary control	3) Boundaries of social networks	3) Area
4) Boundary history	4) Boundary effects	4) Boundary between places	4) Culture
5) Boundary study and teaching	5) Boundary value problem	5) Boundary estates	5) Enclave, Exclave
6) Boundary cases	6) Costs defined by boundaries	6) Boundary in art, literature, religion, folklore	6) Interface
7) Boundary Congresses	7) Discrimination	7) Boundary in United States	7) Boundary line
8) Boundary periodicals	8) Ground rules that will bridge differences and encourage constructive conflict and cooperation	8) Boundary in other countries	8) Boundary / border zone
	9) Identity (rules, habits, perceptual arrangements)	9) Boundary zone	9) Landmarks
	10) Legitimacy	10) Cost boundaries	10) Center-periphery
	11) Membership	11) Defacto boundary	11) Bounded rationality
	12) Power	12) Dejure boundary	12) Ethnic barriers
	13) Preserving boundaries	13) Geographical boundaries	13) Liminality
	14) Respecting and preserving (constitutional) boundaries	14) Natural boundary	
	15) Trust at boundaries	15) Organizational boundary	
		16) Role boundaries	
		17) Statistical boundary	
		18) Subjective / objective boundary	

\*Emphasis is on boundary lexicon emerging from human-social-political-behavioral sciences and humanities. Most boundary terms identified from physical sciences not included at this time.

TABLE 24

## EMERGING ANATOMY OF THE BOUNDARY CONCEPT: A BOUNDARY LEXICON—PART II: DYNAMICS OF BOUNDARIES\*

BOUNDARY ROLES & PROPERTIES	BOUNDARY PROCESSES (behavior)	BOUNDARY INFRASTRUCTURE	BOUNDARY SPANNING	BOUNDARYLESS
<p>1) <b>Boundary Roles</b></p> <ul style="list-style-type: none"> <li>- Boundary hunters</li> <li>- Boundary management</li> <li>- Boundary officials</li> <li>- Boundary patrols, border patrols</li> <li>- Boundary rider</li> <li>- Congressional Co-Manager boundary roles (strategic leader, combative opponent, passive observer, superintendent, consultative partner)</li> </ul> <p>2) <b>Boundary Properties</b></p> <ul style="list-style-type: none"> <li>- Battle (battle zone or battle line)</li> <li>- Blurring (indistinct boundaries, blurring conceptual boundaries, blurring battle lines, etc.)</li> <li>- Boundary ambiguity</li> <li>- Boundary exchange</li> <li>- Boundary: political aspects</li> <li>- Boundary: psychological aspects</li> <li>- Boundary routing</li> <li>- Conflicting boundaries (jurisdiction vs. substantive policy, organizations vs. issues)</li> <li>- Boundary situation</li> </ul>	<p>1) <b>Boundary making</b></p> <ul style="list-style-type: none"> <li>- Boundary detection</li> <li>- Defining (proper) boundaries</li> <li>- Negotiating boundaries</li> </ul> <p>2) <b>Boundary conflict / disputes</b></p> <ul style="list-style-type: none"> <li>- Boundary battle, face-off, fighting, dispute</li> <li>- Boundary debate</li> <li>- Boundary violation</li> <li>- Boundary threat</li> <li>- Boundary of abuse</li> <li>- Functional disputes</li> <li>- Positional disputes</li> <li>- Resource disputes, issues</li> <li>- Territorial disputes</li> <li>- Boundary problems, questions, issues</li> <li>- Boundary negotiation</li> </ul> <p>3) <b>Learning and boundaries</b></p> <p>4) <b>Boundary administration &amp; management</b></p> <ul style="list-style-type: none"> <li>- Boundary bill</li> <li>- Boundary law, legislation</li> <li>- Boundary pact</li> <li>- Boundary maps</li> </ul>	<p>4) <b>Boundary administration &amp; management (con't)</b></p> <ul style="list-style-type: none"> <li>- Boundary maintenance</li> <li>- Boundary plan</li> <li>- Boundary path of exchange, leadership</li> <li>- Boundary relations</li> <li>- Boundary disclaimers</li> <li>- Boundary surveys</li> </ul> <p>5) <b>Boundary change / Changing boundaries</b></p> <ul style="list-style-type: none"> <li>- Boundary adjustment</li> <li>- Boundary bending</li> <li>- Boundary breaker</li> <li>- Boundary busting</li> <li>- Boundary dissolution</li> <li>- Boundary expansion and social influence</li> <li>- Boundary redrawing, revision</li> <li>- Boundary revitalization</li> <li>- Boundary transformation</li> <li>- Feminism / postmodernism</li> <li>- Moving boundaries (e.g., geographical boundaries for cost purposes)</li> <li>- Politics of moving boundaries</li> </ul>	<p>1) Organization to monitor and preserve institutional boundaries (e.g., Joint Legislative-Executive Conference)</p> <p>2) Boundary commission, panel, committee</p> <p>3) Boundary healthcare corporation</p> <p>4) Boundary institutions that blur politics-administration dichotomy</p> <p>5) Design and location of institutions to monitor boundaries</p> <p>6) Organization to span boundaries (separate cost data from political decisions)</p> <p>7) Organizations to decide when to move a geographical boundary for cost reimbursement purposes)</p> <p>8) Role and effects of a commission designed to operate in zone between Congress and executive branch</p>	<p>1) Boundless boundaries (separate cost data from political decisions)</p> <p>2) Boundaryless brands</p> <p>3) Boundaryless career</p> <p>4) Boundaryless organization</p> <p>5) Boundaryless networks</p> <p>6) Boundaryless customer-supplier relations</p> <p>7) Boundaryless-deregulation</p> <p>8) Boundaryless-enterprise integration</p> <p>9) Global economy; information economy</p> <p>10) Infinite capacity</p> <p>11) Learning; innovation</p> <p>12) Leadership</p> <p>13) Managing people</p> <p>14) World, flesh, angels</p> <p>15) Boundary free</p>

\*Emphasis is on boundary lexicon emerging from human-social-political-behavioral sciences and humanities. Most boundary terms identified from physical sciences not included at this time.

weakness, the problem and the opportunity. Placed in the context of this dissertation, divisions, separations, limits—boundaries—are the compelling reason and the places at which—public administration practice needs to develop interlocking roles and mechanisms for realistic cooperative management (including learning). Interlocking roles and mechanisms that simultaneously create, appreciate, change, and preserve boundaries.

That general notion is a point of departure for boundary definitions and boundary development within the various disciplines, as each focuses on limits, separations, and divisions peculiar to its purview (much less so, it would seem, on the notion of interlocking roles and mechanisms). In the process, numerous boundaries are discovered, created, measured, mapped, managed, hunted, violated, blurred, spanned, dissolved, revitalized, transformed, expanded, studied, taught, and so on.

A surprise to this analyst was that boundary is so well developed in the hard sciences and engineering, though not explicit in the medical online catalogues. Another surprise was the pervasiveness of the term and the rich lexicon associated with it. It was intriguing to learn that boundary, the singular, was most often the referent in the physical sciences, whereas boundaries, the plural, was richer in the human sciences and humanities. A deeper appreciation emerged for the perspectives we gain from each form of knowledge available to us. It was tremendously enriching to appreciate, albeit superficially, the motion, quantification, and scope of physical boundaries, and the elegant sets of equations that distill major chunks of information about physical processes—all reflected, for example, in the term boundary conditions. That perspective was widened when the lense switched to the human and social realm, and boundary language became more inter- and intra-personal,

organizational, conflict-laden, normative, legal, political, mythological, and concerned with change ranging from creation to busting to revitalization.

With all that richness, it was a stunning experience to discover the variance in the way different disciplines handled the term boundary in selected dictionaries and encyclopedias. Perhaps information has reached the point that such resources can no longer keep pace, or perhaps they have been replaced with other sources that articulate the core elements of a discipline. Irrespective, boundary was much more consistently and explicitly "defined" (in the limited references consulted here) in the physical sciences and in the political sciences, than it was in general biology (life sciences), communication, and economics (a finding that replicates a 1977 conclusion stated by Strassoldo in his interdisciplinary survey of the boundary concept).

Another set of propositions concerns changing notions of the boundary concept. The functions of boundaries change throughout history. Moreover, interest in boundaries, from both scholar and practitioner, increases during times of great boundary change. In the past, times of great boundary change have been perhaps most vividly associated with the conclusion of world wars and the accompanying redefinition of nation-state boundaries. Today, there are those who argue (though Yankelovitch, 1995, and Samuelson, 1995 are two who would likely disagree) that the important boundaries today, the way that our notions of boundary are "changing with changing times," are those determined more symbolically, by concepts, relationships, and flows of information (money, knowledge, information). This is creating what Michael (1989) characterizes as an incoherent context, and what others characterize as a knowledge society (Drucker, 1994), or an information society or global economy (Rosell, 1995; Cleveland, 1992). Other potentially related propositions suggested that all social groups grow very attached to their boundaries, of whatever type,

and resist boundary change, which is typically threatening to the continuing identity of those groups and their societies. If boundaries are rigid and strictly defined, change can be particularly difficult, as it can when numerous boundaries are in conflict and working at cross purposes.

Finally, two potentially fruitful propositions suggested kernels that might be important to the next generation of boundary work. One is the idea that boundary making is perhaps best regarded self-consciously and as an ongoing process (perhaps boundary management) involving numerous actors and institutions. The other is the idea that the term interface (or something like it) ought to replace boundary, as interface focuses on both the connection and the separation.

### **6.3 INDICATIONS FOR NEXT STEPS**

The emerging boundary lexicon and focal propositions (or statements that are prior to propositions) are useful in that they provide a skeleton and some tissue that points the way to some forward-looking areas of deeper inquiry pertinent to the aims of this dissertation. Indeed, a main purpose of conducting the interdisciplinary survey was to suggest not only a generic frame of reference for the boundary concept, but also to delimit an illustrative area of inquiry that would be the focal point of the next phase of the research: a limited intradisciplinary survey, more concentrated on some facet of boundary closer-in to the domain of public administration.

As it turns out, a book on the study of ocean boundaries provided a key observation that marked the first rationale for making a transition from interdisciplinary to intradisciplinary. Johnston (1988) argued that the roots for a useful (next generation) approach to boundary may lie within the managerial or public administration approach, which has the strength (for present

purposes) that it is eclectic, incorporating both general systems thinking and the knowledge of particular disciplines—and the weakness (hence need to overcome) that it lacks the conceptual rigor of a disciplinary framework.

Taking the organizational literature as the context within which to pursue a deeper inquiry into boundary, then, the next question is, what particular facets of boundary might fruitfully be pursued with respect to the aims of this dissertation? Two facets of the boundary concept stand out as relevant candidates: boundary spanning and boundaryless. Both terms appeared in the interdisciplinary survey as unusual in the boundary lexicon, in particular, when it was discovered that each was so little developed among the boundary theorists examined in Part Two. Of the two, boundary spanning holds the most interest as the referent for a prospective, intradisciplinary inquiry, though boundaryless should not be excluded. The reason is that in addition to being conceptually underdeveloped in the context of the interdisciplinary survey, boundary spanning is a term in Tables 23 and 24 that looks like it has a potential—for forward-looking conceptual development—to inform the design of interlocking roles and mechanisms for cooperative public management at key interfaces outlined in the two public administration cases. “Spanning” and “interlocking” seem more connected, in ways potentially much more interesting, than “roles” and “interlocking” or “leadership” and “interlocking,” though certainly all of the latter might be part of a richer anatomy and physiology of boundary spanning. In addition, certainly one aspect to pursue, in looking at boundary spanning, is the extent to which it produces boundarylessness (which requires a deeper understanding of what is meant by the latter term). That is, if boundaries are spanned, what happens to the boundaries? Can they remain unchanged?

Table 24 identifies boundary "bridging" as a category within the term boundary spanning. Bridging boundaries, it will be recalled, is a main explicit theme of the NAPA report *Beyond Distrust: Building Bridges Between Congress and the Executive Branch*—not only in the title of the report, but also within it (e.g., "to create more effective relationships, each branch must support organizational devices that . . . bridge their institutional boundaries" (p.93). The table also suggests "boundary crossing" and "boundary conversations" as elements within boundary spanning. The interlocking roles suggested by the styles of congressional co-management with the executive branch (Gilmour & Halley, 1994), the boundary leadership role proposed for House and Senate senior congressional staff (Halley, 1995), and the boundary crossing mechanisms illustrated by the Joint Legislative-Executive Conference proposal (NAPA, 1992) and by the leadership development design of the Stennis Congressional Fellows program, all further illustrate the potential relevance and importance of pursuing, more deeply within public administration, the notion of boundary spanning.

In sum, the area of inquiry that emerges as a focal candidate for exploration in Part III, the intradisciplinary survey, is how boundary spanning and boundaryless, examined in literature relevant to administrative theory and behavior, might offer the underpinnings of the next generation of work on boundary theory, in particular, work that would inform the limited aims of this dissertation.

### **Part III**

## **INTRADISCIPLINARY SURVEY OF THE BOUNDARY SPANNING CONCEPT IN ADMINISTRATIVE THEORY AND BEHAVIOR**

"This chapter is symbolized by Jonah trying to swallow the whale (Starbuck, 1983, p. 1070)."

"Where do centers come from? At best we may only be able to explain why there is a center, but not why it is at X (Krieger, 1989, p. 37)."

"The lemniscate is a figure eight as a plane, a ribbon (*L. lemnis*). Its genius is to constitute a continuous form turning now inward and now outward. Follow the upper loop of the eight with your finger outside and go through the crossing point and you will find that your finger is on the inside of the bottom loop and so on. A continuum of opposites (Richards, 1989, p. xix)."

### **Introduction to Part III**

Part III seeks to develop a language for the boundary concept from an intradisciplinary journey through the organizational literature. In formal methodological terms, Part III seeks to: (1) Densify (Strauss, 1987) a boundary sub-category—boundary spanning—that emerged as intriguing in the Part II interdisciplinary survey and that also had roots in the two case studies described in Part I, and (2) Explore the connection, in the literature, between boundary spanning and boundaryless.

It is clearly risky to assert that a journey through the organizational literature will be an intradisciplinary venture. The study of organizations, like the study of public administration, can be regarded as protean and boundless (Forrester & Watson, 1994; Morgan, 1986) and awesomely multidisciplinary and multicultural (Newland, 1994). To characterize something like boundary or boundary spanning, as if there were a singular administrative or organizational approach, is to naively assume the holy grail has been found, can be, will be, or should be.



Three theory streams are typically drawn upon to discuss public administrative theory and behavior: political theory, organization and management theory, and ethical theory. Each stream is important and, as suggested in Part II, each is worthy of examination in its own right for how it sheds light on a concept such as boundary, or derivatives such as boundary spanning and boundaryless. All three theoretical streams are often interwoven to explain, in whole or in part, the way people get things done through other people in an organizational setting (Caiden, 1971; Harmon & Mayer, 1986). It is this orientation—the idea that administrative action takes place in an organizational context—that is at once political, organizational, and ethical—that drives and bounds the next literature survey. The questions pursued are: (1) What is a beginning anatomy of boundary spanning and boundaryless? What categories are important and can they be connected to the boundary categories that emerged from the Part II interdisciplinary survey (Chapter 7)? (2) What are some elements (definitions, themes) of the physiology of boundary spanning and boundaryless that accompany the emerging anatomy (Chapter 8)? (3) What framework emerges that might be a bridge to reinterpret boundary categories and relationships in the two public administration cases (Chapter 9)? Part III, while focusing on the organizational literature, thus concludes with a preliminary synthesis that points the way to testing emerging theory against the two public administration cases that defined the need to develop a formal concept of boundary.

## CHAPTER 7

### BOUNDARY SPANNING: AN EMERGING LEXICAL GUIDEBOOK

Building on the findings and methodology developed in the interdisciplinary survey (Part II), this chapter reports the results of efforts to develop a lexical guidebook for boundary spanning. First, online databases and selected public administration journals were surveyed to get a surface sense of where boundary spanning is a topic. Next, the titles of books and journal articles that appeared from that on-line database survey and other sources were classified, developed within, and compared to the interdisciplinary (generic) boundary anatomy that had emerged in Part II, so as to yield a preliminary boundary *spanning* lexicon and discern its initial relationship to the boundary lexicon. All of this seeks to establish the definitional contours of boundary spanning and lay a guide that will help to situate boundary spanning more formally within organizational theory (the subject of the next chapter).

#### 7.1 WHERE BOUNDARY SPANNING IS A TOPIC: SURVEY OF ONLINE DATA BASES AND SELECTED JOURNALS

A survey of online databases and selected public administration journals was conducted to produce a set of titles that could be examined to yield a preliminary boundary spanning lexical guidebook. As a general statement, to judge by titles alone, boundary spanning is not an explicit concept in the public administration literature (at the level of titles), though it assuredly is in the business and management literature and in some educational literature.

Though the focus here is how boundary spanning is used in the organizational literature, a scan of the 15 online databases surveyed for boundary, in Part II, was repeated to confirm that boundary spanning was probably unique to or at least predominant in the organizational literature.

Table 25 suggests this is the case, though it also suggests that boundary spanning is used with close to equal frequency in some educational literature and possibly in a few miscellaneous literatures.

Few entries appeared for the search command "Title=boundary spanning" and they were either in the educational literature or in the multi-subject periodical index. Boundary spanning is not further differentiated into subject categories within the online databases. When titles appear, they are simply all listed under the category of boundary spanning. The greatest number of titles are identified when the search command is "Keyword=boundary spanning," with most occurring either in the business and management literature or in the educational literature or in the general literature.

The keyword search for boundaryless within the 15 online databases also appears as a column in Table 25. The general pattern for boundaryless is similar to that for boundary spanning, except that the number of titles is fewer, and hardly any appear in the educational literature. Boundaryless, in short, appears unique to the business management literature, at least at the level of titles.

In considering the titles appearing in the 15 online databases, it became apparent that very few, if any, were from the public administration literature, in particular, from journals such as *Public Administration Review* or the *Journal of Public Administration Research and Theory*. Though that might certainly be attributed to the fact that boundary spanning does not occur explicitly in the titles of the public administration literature, it might also be that these journals are not incorporated into the 15 online databases examined (or the few data bases that deal directly with the journal literature). Two additional steps were taken to remedy that. First, a 16th database was surveyed:

**TABLE 25.**  
**ILLUSTRATIVE SEARCHES OF ONLINE DATABASES**  
**FOR VARIOUS OCCURRENCES OF "BOUNDARY SPANNING"**

<b>ONLINE DATABASE</b>	<b>Title= Boundary Spanning</b>	<b>Subject= Boundary Spanning (#subject categories)/ # entries</b>	<b>Keyword= Boundary Spanning</b>	<b>Keyword= Boundary- less</b>
1. WRLC Libraries Catalog (Washington Research Library Consortium)	0	0	3	3
2. Multi-Subject Periodical Index: 1990 to present	1	0	2	3
3. Multi-Subject Periodical Index	2	(0)/17	21	11
4. Newspaper Abstracts	0	0	0	1
5. Book Review Digest & Cumulative Book Index	0	0	0	1
6. Essay and General Literature Index	0	0	0	0
7. Biography Index	0	0	0	0
8. ABI-Inform (Business & Management Index)	0	0	48	20
9. Education Index and Library Literature	0	0	1	0
10. ERIC (Educational Resources Information Center)	4	0	45	1
11. Applied Science, Technology, and Biology Index	0	0	0	0

TABLE 25 (continued).

	<u>Title=</u> Boundary Spanning	<u>Subject=</u> Boundary Spanning (#subject categories)/ # entries	<u>Keyword=</u> Boundary Spanning	<u>Keyword=</u> Boundary- less
<b>ONLINE DATABASE</b>				
12. HAL-Medical Library Catalog	0	0	0	0
13. Index to Legal Periodicals	0	0	0	0
14. LEAGLE (on-line catalog of the Washington College of Law Library)				0
15. JACOB-Law Library Catalog (George Washington University)	0	0	0	0
16. Public Affairs Information Services Index (PAIS)	0	0	0	0

the Public Affairs Information Index (PAIS).<sup>1</sup> Second, an illustrative subset of public administration journals was searched (hands-on), on library shelves, to see if there were explicit occurrences of boundary spanning.

The PAIS searches yielded no occurrences of boundary spanning or boundaryless. They did produce a list of 121 titles for "boundary only" and 11 titles for "spanning only." The 121 titles for "boundary" were principally from

<sup>1</sup>PAIS indexes provide bibliographic access to public and social policy materials of use to legislators, government officials, the business and financial community, policy researchers, and students. All subjects that bear on contemporary public issues and the making and evaluating of public policy, irrespective of source or disciplinary boundaries are covered. This includes the policy-oriented literature of the academic social sciences such as economics, political science, public administration, international law and relations, the environment, and demography; professional publications in fields such as business, finance, law, education and social work; and reports and commentary on public affairs from the serious general press. (from *PAIS International In Print*, February 1995, v.5, n.2.)

geography, political science, and international law, and a few from ethics. Many had already been identified in the interdisciplinary survey of Part II. The 11 entries for "spanning only" had nothing to do with boundaries, at least based on the information contained in the titles.<sup>2</sup>

The dearth of information yielded in the PAIS search lead to a limited survey of five public administration journals (see Table 26), some predominantly oriented to theory, one predominantly to practitioners, and most a theory-practice mix.<sup>3</sup> The results of the public administration journal survey, however, confirmed that boundary spanning is not a term in the titles for the years examined, with one exception: an article with boundary spanning in the title (Robertson, 1995) appears in the *Journal of Public Administration Research and Theory*. I took this to mean that boundary spanning will likely be an implicit notion within the public administration literature, and that it may even be used explicitly within that literature but has not yet made it to the status of appearing on its own in a journal title or in an index to a journal. Boundary spanning also does not appear in the *Public Administration Dictionary, 2nd Edition* by Ralph C. Chandler and Jack C. Plano (1988). Boundary spanning might also appear in titles for public administration journals not examined here. I should also note that quite a few boundary-related titles appeared while examining the set of public administration journals in Table 26 (e.g., concerning spatial models and legislative redistricting in political science; and concerning the wavering line between public and

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<sup>2</sup>It should also be noted that PAIS was not "online" in the same manner as the other 15 surveyed. That is, PAIS could only be accessed by contacting a reference librarian and having that person insert a CD ROM disk into a rather old computer. PAIS, in short, is not a very visible online database.

<sup>3</sup>For each of the five journals, titles in the first three years and the most recent two years were examined. Then, for the middle years, titles were examined either for every fifth year, every third year, or every other year. That lead to a range of total number of years surveyed from five years for *J-PART* to 22 years for *APSR*.

**TABLE 26.**  
**PUBLIC ADMINISTRATION JOURNALS SURVEYED FOR ARTICLES ON BOUNDARY SPANNING**

JOURNAL	JOURNAL AGE	FIRST 3 YEARS / MOST RECENT 2 YEARS	MIDDLE YEARS	TOTAL NUMBER YEARS SURVEYED	EXPLICIT OCCURRENCES OF B- SPANNING (titles)
<i>American Political Science Review</i> (APSR)	1906 to 1995  (90 years)	1906, 1907, 1908, 1994, 1995  (5 years)	Every 5th year starting with 1914 and ending with 1990; replaced 1972 with 1973.  (17 years)	22 years	0
<i>Governance</i>	1987 to 1995  (8 years)	1987, 1988, 1989, 1994, 1995 (replaced 1987, 1988, 1989 with <i>Public Administration and Development</i> )  (5 years)	Every other year starting with 1991 and ending with 1993.  (2 years)	7 years	0
<i>Journal of Public Administration Research and Theory</i> (J-PART)	1991-1995  (5 years)	1991, 1992, 1993, 1994, 1995  (5 years)	n/a	5 years	1
<i>Public Administration Review</i> (PAR)	1940 to 1995  (56 years)	1940, 1941, 1942, 1994, 1995  (5 years)	Every 5th year starting with 1947 and ending with 1992.  (10 years)	15 years	0
<i>Public Manager</i> (The Bureaucrat)	1972 to 1995  (24 years)	1972, 1973, 1974, 1994, 1995  (5 years)	Every 3rd year starting with 1977 and ending with 1989-90.  (6 years)	11 years	0

private, and the shared powers system of the Constitution, both in a practitioner-oriented journal, *The Public Manager*. The latter were incorporated as references within the boundary spanning title compendium if they appeared related to titles already there.

Finally, to the above rather systematic searches for occurrences of boundary spanning, other titles were incorporated into the boundary spanning compendium from scanning the references cited in books and articles I had already collected.<sup>4</sup> The result was a list of roughly 200 titles explicitly related to boundary spanning, a supplementary list of over 50 titles where boundary spanning seemed readily implicit, and several other supplementary lists where boundary (not limited to boundary spanning) was explicit or implicit in public administration literature (the latter for future reference).

## **7.2 A PRELIMINARY BOUNDARY SPANNING LEXICON**

Table 27 is a partial synthesis to show the boundary spanning lexicon that emerged from a sorting and classification of the above titles. That analysis was guided by the generic (interdisciplinary) boundary framework that emerged from Part II, the question being whether boundary *spanning* could be preliminarily codified in terms of its foundations (i.e., boundary spanning theory, goals-values-functions, boundary types, and associated terms) and its dynamics (i.e., boundary spanning roles and properties, process, infrastructure, and boundaryless). The interdisciplinary framework was not binding, however, in that I also sought categories that would emerge from the titles themselves. The resulting boundary *spanning* lexicon is in Table 27, which will now be briefly described and compared to the interdisciplinary framework for boundary (in Table 24). As a general observation, the generic boundary

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<sup>4</sup>The list is available on request.



TABLE 27.

EMERGING ANATOMY OF THE BOUNDARY SPANNING CONCEPT: A BOUNDARY LEXICON FROM TITLES—PART I: FOUNDATIONS

BOUNDARY SPANNING THEORY / PERSPECTIVES	BOUNDARY SPANNING GOALS / VALUES / RESULTS / FUNCTIONS	BOUNDARY SPANNING PROBLEMS & BOUNDARY TYPES	ASSOCIATED TERMS (to boundary spanning)
1) Systems theory; Sociotechnical systems theory	1) Corporate social responsibility	<b>Types of Boundary Spanning Problems:</b>	1) Stepping over boundaries
	2) Forward integration	- Intergenerational problems (marginally related to present boundaries of countries)	2) Bridging the boundary
2) Ecology	3) Impacts of role ambiguity	- Rhetoric of government / management reform	3) Boundary work
3) Theory of government	4) Implications for personnel		4) Boundary crossing
4) Center-periphery theory	5) Marginality	<b>Types of Boundaries Spanned:</b>	5) Transboundary management
5) Learning	6) Organizational performance	- Between organization and environment	
6) Cross-cultural perspective	7) Productivity	- Between Members of Congress and their Administrative Assistants	
7) Marketing theory	8) Promotion	- Board-level to environment	
8) Organizational theory	9) Satisfaction	- Federal agencies	
9) "Interpretations of Context that "see" Boundary Spanning" -Information -Nanotechnology -Post-capitalist society -Age of social transformation -Social ecology -Postmodern -Incoherent context -Borderless world -Interlinked economy -Information society -World of rapid change -Environmental variation -Globalization -Environmental uncertainty -Institutionalized environments	10) Sociopolitical delegitimation of an organization	- Hierarchy	
	11) Turnover	- In electronics firms	
	12) Monitoring	- In research and development	
	13) Information acquisition	- Formal channels	
	14) Interpretation	- Informal channels	
		- Justice and mental health systems	
		- Offices of institutional research as boundary spanning	
		- Organizational boundaries (interorganizational conflict, postmodern organization, boundaries of rationality, environmental analysis)	
		- Regional organizations and institutions	
		- State and local governments	
		- Union and non-union	
		- University-industry linkages	
		- Work setting and behavior	
		- Ethnic	
10) -Civic space		- International	
		- Between generations	

Table 27 (continued).  
PART II: DYNAMICS

BOUNDARY SPANNING ROLES & PROPERTIES	BOUNDARY SPANNING PROCESSES (behavior)		BOUNDARY SPANNING INFRASTRUCTURE	BOUNDARYLESS
<p>1) <b>Boundary Spanning Role or Organizational Boundary Role</b></p> <ul style="list-style-type: none"> <li>- Burnout</li> <li>- Concept of role</li> <li>- Control</li> <li>- External orientation</li> <li>- Influence</li> <li>- Information</li> <li>- Linking pin</li> <li>- Marginality</li> <li>- Role stress</li> <li>- Power</li> <li>- Role ambiguity</li> <li>- Role conflict</li> <li>- Role set</li> <li>- Examples of boundary spanning positions (academic research administrators, customer contact workers, product managers, project managers, sales, executives, information systems, rural school psychologists, public accountants)</li> </ul> <p>2) <b>Properties of Spanned Boundaries</b></p> <ul style="list-style-type: none"> <li>- Blurred</li> <li>- Permeability</li> <li>- Stability</li> <li>- Veridicality</li> </ul>	<p>1) <b>Boundary making</b></p> <ul style="list-style-type: none"> <li>- Drawing boundaries around production system to allow self managing teams to happen</li> <li>- Demarcation of a field of knowledge</li> <li>- Jurisdiction</li> <li>- Turf</li> </ul> <p>2) <b>Boundary spanning conflict</b></p> <p>3) <b>Learning and Innovation</b></p> <p>4) <b>Information</b></p> <ul style="list-style-type: none"> <li>- Information processing</li> <li>- Interpretation systems</li> </ul> <p>5) <b>Connection, Linking, Interchange</b></p> <p>6) <b>Mimetic processes</b></p> <p>7) <b>Strategic decision making processes</b></p> <p>8) <b>Technology transfer processes</b></p> <p>9) <b>Communication, Performance, External Activity</b></p>	<p>10) <b>Leadership and boundary management</b></p> <ul style="list-style-type: none"> <li>- Balance between rules and space</li> <li>- Beyond distrust</li> <li>- Capture or comanagement</li> <li>- Cooperative management (in wartime)</li> <li>- Diplomacy of interdependence</li> <li>- Executive appreciation</li> <li>- Future executive</li> <li>- Growing a public executive</li> <li>- Interlocking collaboration</li> <li>- International manager, leader</li> <li>- Knowledge executive</li> <li>- Leadership for common good</li> <li>- Leadership without easy answers</li> <li>- Managing across borders</li> <li>- New team environment</li> <li>- Shared power</li> <li>- Struggle for control</li> <li>- Transnational solution</li> <li>- Boundary spanning supervision</li> <li>- Law of the situation</li> </ul>	<p>1) <b>Boundary spanning structures for effective linkages</b></p> <p>2) <b>Brookings Institution</b></p> <p>3) <b>Causes of failure in network organizations</b></p> <p>4) <b>Competitive organizations</b></p> <p>5) <b>End to hierarchy</b></p> <p>6) <b>International boundary commissions</b></p> <p>7) <b>Interorganization fields</b></p> <p>8) <b>Interorganization theory</b></p> <p>9) <b>Interorganization relations</b></p> <p>10) <b>Limits of boundary commissions</b></p> <p>11) <b>Network centrality</b></p> <p>12) <b>Networks</b></p> <p>13) <b>Organizational structure</b></p> <p>14) <b>Parallel learning structures</b></p> <p>15) <b>Political economy</b></p> <p>16) <b>Referent organizations</b></p> <p>17) <b>Strategic alliances</b></p>	<p>1) <b>Boundaryless behavior</b></p> <p>2) <b>Boundaryless career</b></p> <p>3) <b>Boundaryless leadership</b></p> <p>4) <b>Boundaryless organizations, networks – new boundaries of</b></p> <p>5) <b>Continuous innovation</b></p> <p>6) <b>Customer-supplier</b></p> <p>7) <b>Dark side of new organizational forms</b></p> <p>8) <b>Global competitiveness</b></p> <p>9) <b>Information economy</b></p> <p>10) <b>Learning organization</b></p> <p>11) <b>Public administration: protean and boundless; awesomely multidisciplinary and multicultural; loss of theoretical relevance</b></p> <p>12) <b>Removing walls</b></p> <p>13) <b>Boundless, infinite capacity</b></p> <p>14) <b>Deregulation</b></p>

categories in Table 24 seemed to be a good descriptive framework for classifying boundary *spanning* titles, provided the word "spanning" was added to each main heading (e.g., boundary *spanning* foundations, boundary *spanning* dynamics). The comparison further suggests that boundary spanning and boundary are more complementary than mutually exclusive, and that boundary spanning might best be regarded as a sixth boundary process in Table 24 (i.e., as a process comparable to boundary making, boundary conflict, boundary change), rather than as a category logically equivalent to boundary role, process or infrastructure. But Table 24 is also sort of a hologram (though that is difficult to portray visually) in that many of its elements (like boundary spanning) can be analyzed with reference to the broader scheme (i.e., boundary foundations and boundary dynamics).

#### **Boundary Spanning Foundations**

***Boundary Spanning Theory.*** Systems theory shows in both Table 24 and Table 27 as an orientation or broad perspective within which boundary and boundary spanning take on significance. Boundary spanning, like boundary, will thus be concerned with environments, wholes, processes, and relationships. Since boundary spanning is being examined within the organizational literature, its "theoretical" lexicon is more substantively differentiated than the one for boundary in Table 27. For example, in addition to (some would argue as part of) systems theory, socio-technical systems theory, ecology, center-periphery theory and cross-cultural perspectives are part of the perspectival map for boundary spanning. Moreover, keywords describing the contemporary organizational context appeared in boundary spanning that did not occur in the generic boundary framework. Words like nanotechnology, borderless world, globalization, and interlinked economy emerged for boundary spanning. In the

generic boundary lexicon, those characterizations were only associated with the term boundaryless.

*Boundary Spanning Goals/Values/Results/Functions.* The goals, values, or results of engaging in boundary spanning are apparently acquisition and interpretation of information, monitoring, and improved corporate social responsibility, productivity and organizational performance. It looks like boundary spanning is full of conflict: role ambiguity is part of being a boundary spanner as is marginality, turnover, promotion, and satisfaction. Boundary spanning looks risky; it can result in sociopolitical delegitimation of an organization as well as forward integration. The information in Table 24 seems to fill out this picture of boundary spanning goals and values, perhaps suggesting why boundary spanning will be so complicated yet also so attractive. For example, in Table 24, work at boundaries seems to require ground rules to bridge differences, and to involve issues of power and authority, legitimacy, membership, control, identity, and trust, all rather fundamental to human relationships.

*Boundary Spanning Problems and Boundary Types.* The survey of public administration journals yielded a few citations (though not in their titles) that suggested a concern with boundary spanning problems (e.g., intergenerational problems). That resulted in creating, in Table 26, a subcategory called "types of boundary spanning problems" that did not appear in the generic boundary lexicon of Table 24. It also produced the awareness that the interdisciplinary literature identified in Part II contained references to what might be called "boundary problems," though such problems had not been codified in that survey. For boundary spanning, it seemed informative to do so.

Looking next to types of boundaries spanned (Table 26) versus boundary types (Table 24), it is clear that both lists show numerous examples of particular boundaries. The boundary spanning list, being derived from the organizational literature, identifies intra- and inter-organization boundaries to be spanned. The intra-organization boundaries to be spanned are mainly those of the hierarchy (e.g., between Members of Congress and their Administrative Assistants, or among the units within an electronics firm. The inter-organization boundaries to be spanned can be encompassed within the boundary between the organization and its environment (e.g., between justice and mental health systems, between state and local governments, unions and non-unions, and university-industry linkages). Boundary spanning also involves more abstract boundary types, such as boundaries of rationality, formal versus informal boundary channels, and the boundaries between generations. Organizational, institutional, role, and subjective-objective boundaries, seen in Table 26 for boundary spanning, are but one sub-type of boundaries to span if we turn back to Table 24. There (Table 24), our perspective is widened to consider that natural and geographical boundaries might be spanned, as well as boundaries in art, religion, literature, and folklore.

*Associated Terms.* Terms associated with boundary spanning are few (in this first cut) and very activity-oriented (e.g., stepping over, bridging, crossing). By contrast, terms associated with boundary appear to have a broader range and are more areal, characterizing what is being spanned (e.g., frontier, border, line) or social-symbolic aspects of that (e.g., culture, ethnicity, enclave, exclave).

### **Boundary Spanning Dynamics**

*Boundary Spanning Roles.* The boundary spanning role has more social psychological features than the generic boundary roles. Terms like burnout,

coupled with role conflict, role stress, and role ambiguity sound a note of caution for the boundary spanning role. On the other hand, the boundary spanning role is associated with power, influence, information, and control, giving it certain surface similarities to descriptions of the leadership role. A range of organizational positions perform boundary spanning, from executives to customer contact workers, product managers, and project managers. The boundary role characterization identified in Table 24 was mostly positions (e.g., boundary officials, boundary patrols) or styles (e.g., strategic leaders or combative opponent), which might be spanning boundaries but might also be making them, changing them, handling conflict, or performing boundary administration and management.

*Properties of Spanned Boundaries.* Relatively few features emerged among the titles for properties of spanned boundaries. Blurring was the predominant theme (i.e., spanning boundaries blurs them). Boundary permeability or openness to the environment, boundary stability in relations to the environment, and information accuracy in organization-environment relations (or boundary veridicality) emerged as also potentially relevant properties of spanned boundaries (i.e., spanning may be a function of and produce boundary permeability, boundary stability, and these may or may not be desirable) (e.g., Oliver, 1993). Boundary blurring also appeared in the generic boundary lexicon of Table 26, along with additional properties that certainly seem potentially relevant to boundary spanning (e.g., boundary ambiguity, conflicting boundaries, battle zone and battle line).

*Boundary Spanning Processes.* Numerous processes appear for both boundary spanning and boundary. Boundary making, boundary conflict, learning, and leadership and boundary management are processes relevant both to boundary and to boundary spanning. Boundary change, however, did

not appear as an element in boundary spanning, which seemed surprising since boundary change was a strong category in Table 24. Processes that seemed unique to boundary spanning were information processing and interpretation systems, mimetic processes, technology transfer processes, connection, linking, interchange, communication, and strategic decision making. Processes for both boundary spanning and boundary alone have very much of an interactive, back and forth flavor, though the exchange or linking or interlocking seems more prominent for boundary spanning. The generic boundary processes (e.g., boundary making, boundary conflict, boundary change) of Table 24 were richly differentiated. By contrast, within the boundary spanning processes, only boundary making and leadership and boundary management were densified.

***Boundary Spanning Infrastructure.*** The boundary spanning infrastructure in Table 27 has a much different feel than the boundary infrastructure in Table 24, though that does not mean they are mutually exclusive. Boundary spanning brings to the fore the theoretical underpinnings of an organizational infrastructure at boundaries, such as interorganization fields and theory, networks, referent organizations, strategic alliances, and parallel learning structures. Boundary alone lacks theory but seems to wish for it, and tends more to identify specific institutions such as a Joint Legislative-Executive Conference or organizations to decide when to move a geographical boundary for cost reimbursement purposes.

***Boundaryless.*** Finally, boundaryless in both the interdisciplinary and organizational boundary spanning lexical guides still stood out as a category on its own and did not seem to fall within the other major headings (columns) of the descriptive framework. This is in part due to the fact that the analysis thus far is mainly at the level of titles. The question still is unanswered as to what the connection might be between boundary spanning and boundaryless, which

might indicate that boundaryless has to be examined in its own right or that the relationship will become clearer in deeper analysis of boundary spanning.

During the search of public administration journals, the keywords appeared (though technically they were not in a title) that public administration is protean and "boundless" (Forrester & Watson, 1994). That, accompanied by the keywords that boundaryless might encompass concerns with "the dark side of the new organizational forms," hinted at a potentially rich boundary spanning lexicon which might well indeed serve as another piece of the foundation being pursued to develop a boundary concept relevant to public administration practice.

### **7.3 SUMMARY**

Boundary spanning and boundary are more complementary than mutually exclusive. In the generic boundary framework, boundary spanning is probably a sub-category of the boundary processes. However, boundary spanning can be pulled out and examined on its own, using the generic boundary framework. The result is enriching to both.

Boundary spanning is an explicit concept in the titles of the business management and educational literature. It is more implicit or below the level of titles in the public administration literature examined. A boundary spanning lexicon can be developed from sorting and analyzing titles, pretty much using the generic boundary framework that emerged from Part II. The logical and substantive status of boundaryless are still ambiguous. In a very important sense, the resulting preliminary boundary spanning lexicon might be regarded as containing one aspect of the definitional contours of a boundary spanning concept ultimately relevant to the two public administration cases.



As these findings are principally derived from examining a wide array of titles in the literature, the next step is to go deeper within that literature.

**CHAPTER 8**  
**BOUNDARY SPANNING AND BOUNDARYLESS:**  
**AN EMERGING PHYSIOLOGY**

In the synthesis developed in Chapter 6, boundary spanning was identified as a sub-category within boundary dynamics (vs. boundary foundations). That preliminary observation also pointed to a possible and puzzling antonym to boundary—i.e., boundaryless—as a condition that could be healthy and unhealthy. Both terms were linked to the emergence of a so called information society, and both also appeared associated with the literature on organization and management. This chapter uses the organizational literature to focus on the two terms, boundary spanning and boundaryless. It characterizes theoretical and empirical work on boundary spanning and boundaryless; explores boundaryless as one of several emerging alternative metaphors to boundary spanning; and reaches some interim conclusions respecting the relationship between boundary spanning and boundaryless.

**8.1 CHARACTERIZATION OF WORK ON BOUNDARY SPANNING**

**Inadequacy of Traditional Organizational Categories**

Boundary spanning has been in the organizational literature for more than two decades (Steadman, 1992), arising generally within the systems approach to organizations, and emphasizing the interactions between organizations and their environments, or more recently, networks and populations of organizations (Cummings, 1984). An initial way to situate boundary spanning in organizational theory is to consider its relationship to the logical types or levels of organizational analysis.

Though theoretical diversity is the norm in contemporary organizational theory, fundamental quarrels over levels of analysis (i.e., respecting their identity) are rare by comparison. Organizational theorists have, for years, distinguished a hierarchy of logical types, ranging from the individual to the organization, network or populations of organizations, to society, and even to the broader context (e.g., constitutional, global). Some (e.g., Van de Ven & Joyce, 1981) collapse these levels simply into the microlevel (individual organizations and people or positions within them) or the macrolevel (populations, networks, communities of organizations). Others (e.g., Cummings, 1984) argue that the network-centric study of organizations constitutes a logical type intermediate between a single organization and societal systems, and thus would take issue with a mere microlevel to macrolevel distinction. Irrespective, organizational literature has tended to array itself according to some variation of focus either on individuals, groups, organizations, or organizational environments.

Though much of the organizational literature can be distinguished clearly by the traditional levels of analysis, that demarcation is difficult to achieve meaningfully with the boundary spanning literature. Boundary spanning, with its inherent focus on the relationship between organization and environment, blurs the individual-organization-environment typology. Most, if not all, boundary spanning references work simultaneously at all three levels of analysis, though to be sure, any particular reference may try to emphasize one more than the other. The levels of analysis are even further confounded because the organizational literature defines the boundary spanning process (as linking, exchange, etc.) similarly at both the individual and group-organizational levels (e.g., Steadman, 1992; Michael, 1995). At the individual level, the emphasis is more on the boundary or the boundary spanning role, the people who do it (positions they hold, personal characteristics,

competencies), and the effects they experience performing boundary spanning.

For example, boundary spanning at the individual level has been defined as

persons who:

- operate (as exchange or linking agent) at the periphery, skin, or boundary of the organization with elements outside it (Leifer & Huber, 1977; Lysonki, 1985; Leifer, 1975),
- link two or more systems whose goals and expectations are likely partially conflicting (Miles, 1980), and
- engage in the activity of understanding another culture (Fairtlough, 1994).

At the organizational level, rather than discussing the boundary spanning role or agent, boundary spanning is defined more with respect to organizational structure, functions, mechanisms, and end-states.

Organizational boundary spanning, for example, may speak less of individual boundary spanning agents and more on boundary spanning, the process, as:

- filtering, protecting, buffering, and representing the organization to its environment (e.g., Adams, 1983);
- a quest as much for control as for adaptation (Harmon & Mayer, 1986);
- managing social, task, and institutional environments (Scott, 1987); or as
- changing the walls within and between organizations into networks or paths of exchange (Dreaschlin et al., 1994).

Yet boundary spanning agents are typically referred to as performing the organizational boundary role. Boundary spanners, be they persons or collectivities, are described as performing identical processes and experiencing similar difficulties and rewards (e.g., Michael, 1973; Halley, 1994). All the action in boundary spanning is in an area that rational-analytic organizational theory

demarcates as “in-between” entities (e.g., between organization and environment). It has to be said that the familiar logical types of organizational analysis are a difficult, and by themselves, perhaps irrelevant, frame of reference within which the boundary spanning literature might be codified. Indeed, it might be argued that boundary spanning in some definitions, is an effort to achieve the integrated action necessary to address problems that cross familiar boundaries (e.g., Michael, 1973; Kirlin, 1994). That sort of reasoning means boundary spanning would itself be a cross-level construct (e.g., Wallace, 1983; Price, Ritchie & Eaulau, 1991), thus rendering the classification of its literature into any one of those levels at minimum to be misleading and at maximum to be a logical error of the worst kind.

#### **Theoretical and Empirical Work on Boundary Spanning: Five Metaphors**

A second approach to characterizing the scholarly work on boundary spanning is to distinguish whether that work is theoretical (speculative or deductive that advances conceptual understanding) or empirical (exploratory, descriptive, explanatory, qualitative, or quantitative efforts that develop or test theory), recognizing that these distinctions, like the organizational levels of analysis, can also be difficult to draw (e.g., Kaplan, 1964). To make this characterization, 21 authors with 24 journal articles, books or book chapters, who would illustrate the range of reference material collected, and would include the private and public sector, were selected from the boundary spanning reference base described in Chapter 7. A breakdown of these references by author, type and year appears in Table 28. This author set is the principal basis for generalizations made in this section.

In addition to reading each reference to determine its theoretical-empirical type, a rudimentary attempt was made to indicate the relative

**TABLE 28.**  
**TYPE OF BOUNDARY SPANNING REFERENCE BY YEAR**

Type of Reference	1960s	1970s	1980s	1990s
<b>Theory</b>	Thompson (1967)	Schon (1971) Michael (1972) Sherwood (1976)	Miles (1980) Adams (1983) Scott (1987)	Oliver (1993) Kettl (1994) Kirlin (1994) Michael (1995)
<b>No. of References</b>	1	3	3	4
<b>Empirical</b>		Leifer (1975) Rosell (1976) Tushman (1977) Spekman (1979)	Gilmore (1982) Schwab, Ungson, Brown (1985) At-Twajiri & Montanari (1987) Cappelli & Sherer (1989)	Hirschhorn (1992) Rosell (1992, 1995) Friedman & Podolny (1992) Steadman (1992) Robertson (1995)
<b>No. of References</b>	0	4	4	6

emphasis given to selected substantive boundary themes identified in Chapter 7. The results (see Table 29) showed that all of the authors discussed or developed boundary spanning theory, with the empirical group seeking to test it and the theoretical group to develop or synthesize it (the latter sometimes referring to empirical work to do so, but not actually conducting the empirical work). After that, the themes most commonly developed concerned the boundary spanning role, boundary spanning processes or activities, and properties, functions, and effects of and on the boundaries spanned. Not many works in this author set developed themes concerning the goals and values of boundary spanning, the relationship of boundary spanning to learning and innovation, or the nature of the boundary spanning infrastructure. Only one author made a small note of what might be construed as boundaryless.

Five metaphors for boundary spanning, all within a systems orientation, are distinguishable among the authors identified (see Table 30). Each of these will be briefly summarized, drawing upon the thematic analysis of Table 29.

TABLE 29.

ILLUSTRATIVE BOUNDARY SPANNING THEORISTS AND RESEARCHERS AND SELECTED MAJOR TOPICS

	I. FOUNDATIONAL WORK			II. BOUNDARY SPANNING DYNAMICS				
	B-SPANNING THEORY / PERSPECTIVES	B-SPANNING GOALS - VALUES- RESULTS	B-SPANNING PROBLEMS, B-TYPES	B-SPANNING ROLE or POSITION	B-SPANNING PROCESSES / ACTIVITIES	LEARNING, INFORMATION INNOVATION	B-SPANNING INFRASTRUCT	BOUNDARY LESS
<b>THEORETICAL WORK ON BOUNDARY SPANNING:</b>								
• Thompson (1967)	X			X	X			
• Schon (1971)	X			X	X	X		
• Michael (1973, 1995)	X	X	X	X	X	X		
• Adams (1976)	X			X				
• Sherwood (1976)	X		X	X				
• Miles (1980)	X			X	X			
• Gilmore (1982)	X		X	X	X			
• Scott (1987)	X		X		X			
• Oliver (1993)	X	X	X	X	X			
• Kentl (1994)	X		X			X		
• Kirlin (1994)	X	X	X					
<b>EMPIRICAL WORK ON BOUNDARY SPANNING:</b>								
• Leifer (1975)	X			X	X			
• Rosell (1976, 1992, 1995)	X	X	X	X	X	X	X	X
• Tushman (1977)	X	X	X	X	X	X		
• Spekman (1979)	X			X				
• Schwab, Ungson, Brown (1985)	X			X	X			
• At-Twajri & Montanari (1987)	X			X	X			
• Cappelli & Sherer (1989)	X		X	X	X			
• Friedman & Podolny (1992)	X			X	X		X	
• Hirschhorn (1992)	X		X	X	X	X		
• Steadman (1992)	X		X	X				
• Robertson (1995)	X			X	X			

***Boundary Spanning as Organizational Adaptation.*** Theorists and researchers within this metaphor have a main premise that boundary spanning entails interactions between the organization and its environment, and that it is through the behavior of those who interact across the organization-environment boundary that the organization adapts or fails to adapt to changes in the environment. Most of the theorists in this set emphasize the boundary spanning role or position and the accompanying boundary spanning processes and activities. Thompson (1967) is one of the foundational boundary spanning theorists who proposed a two domain model in which the organization had a stable core of productive activity sheltered by a domain of uncertainty-absorbing boundary

**TABLE 30**  
**FIVE METAPHORS FOR BOUNDARY SPANNING**

Metaphor for Boundary Spanning	Theory	Empirical*
Organizational Adaptation	Thompson (1967) Miles (1980) Adams (1983) Scott (1987) Oliver (1993)**	Leifer (1975) Spekman (1979) Schwab, Ungson, Brown (1985) At-Twajri & Montanari (1987) Robertson (1995)
Learning/Information/ Innovation	Schon (1971) Michael (1972, 1995) Kettl (1994)	Rosell (1976, 1992, 1995), Tushman (1977)
Horizontal Leadership and/or Power	Sherwood (1976)	Gilmore (1982) Cappelli & Sherer (1989) Friedman & Podolny (1992)
Psychic/Symbolic		Hirschhorn (1992)
Design	Kirlin (1994)	Steadman (1992)

\*Note: The authors doing empirical work are not necessarily "testing" the work of the particular theorists identified in the neighboring cell. Both theorists and empiricists, are addressing boundary spanning within a roughly similar metaphor. Moreover, as with all the boundary spanning work, any single author is likely to cover more than one metaphor. The above table is to illustrate what they seemed to emphasize. Other analysts might certainly abstract a different set of dominant metaphors and emphases.

\*\*Explicitly calls for multiple metaphors, multiple theoretical perspectives.



spanning activity. In Thompson's words "adjustment or adaptability is the hallmark of boundary-spanning components of organizations" (p. 70). Similarly, Miles (1980) argues that organizations design and staff a variety of boundary spanning roles and units to perform the institutional-adaptive function. For Miles, people do boundary spanning when they: represent and protect the organization, act as information gatekeepers, link, coordinate, monitor, and scan the external environment. He also distinguishes positive and negative outcomes for individuals who engage in boundary spanning (e.g., role conflict, stress versus enhanced power, visibility, exposure to a variety of problems and opportunities, and increased job autonomy) from organization-level outcomes such as adaptation (e.g., boundary role outcomes are a primary source of environmental information to the organization and organizational information to the environment).

Oliver (1993) and Scott (1987) might take strong issue with being classified into a single metaphor such as organizational adaptation, as both distinguish the variety of external demands to which organizations respond and the accompanying different organization-environment boundaries and boundary functions. Oliver, for example, identifies five boundary functions (membership, role set, sphere of influence or control, transaction-cost dichotomy, and institutional filter). Oliver would regard organizational survival as more encompassing than organizational adaptation. Her analysis limits boundary spanning to roles and activities, monitoring, and information acquisition.

Empirical work within a dominant boundary spanning metaphor of organizational adaptation parallels the theoretical work in its focus on the boundary spanning role or position and accompanying boundary spanning activities. At-Twaijri & Montanari (1987) and Spekman (1979) both studied purchasing agents as boundary spanners, with the former developing and

testing a theoretical model of relationships among environmental interdependence, environmental uncertainty, and boundary spanning activities, and the latter investigating the boundary role person (BRP) as an influence agent and what bases of social power they exercise. Schwab, Ungson & Brown (1985) used samples from wood products and high technology firms to test whether boundary spanning is related mainly to environmental changes or to structural variables (they found a close relationship between boundary spanning activity and environmental changes, but it appeared to vary with particular environmental dimensions as well as with the industry). Both Leifer (1975) and Robertson (1995) have public sector boundary spanners in their samples, though Leifer also has manufacturing and a research and statistics group. Leifer argues that there are differences in the way boundary spanning is carried out across organizations, and develops a framework for contingency statements indicating under what conditions boundary spanning activity would be routine or non-routine. Robertson examines whether the relationship between work setting and behavior is affected by the organizational member's involvement in boundary spanning activity, focusing on boundary spanning as a moderator variable. He found mixed support for his premise. He was surprised that boundary spanners were more influenced by the nature of their work goals than by their manager's behavior, and concluded (in part) that public managers supervising boundary spanners need to establish and clarify key group and organizational goals that effectively guide such employees' behavior. Robertson, like Leifer, wants to look at boundary spanners in different settings.

*Boundary Spanning as Learning / Information / Innovation.* All three theorists here (Schon, Michael, and Kettl) are predominantly concerned with the role of government in boundary spanning and learning for society, and as such, with the private sector as well. For all three, the loss of a stable state

means that boundaries of all kinds are shifting, growing in number and complexity, and changing.

Boundaries today are less determined by material circumstances such as geography and more by concepts, relationships, and flows of information in the form of money or symbols (Michael, 1995). Government needs to learn how to continually develop new and appropriate procedures to span the increasingly complex sectoral, intergovernmental, interagency, interprogram, and interlevel boundaries (Kettl, 1994) as well as the conceptual, temporal, and symbolic boundaries (Michael, 1995). To do that, governments have to learn as yet unformulated ways of governing, including discovering appropriate modes of boundary spanning. For Kettl, that means institutions matter because of the boundaries they create. It also means governments should self-consciously develop people who can reach out across those boundaries and build a common language in which to communicate. For Schon, in a foreground of change, there will be a continuing mismatch between institutions and the boundaries they create. Thus, the highest priority should be to create an ethic of social learning, wherein government learns for society as a whole (Schon, 1971). That might be called civic learning, which entails engaging the tasks of boundary maintaining, boundary shifting, and boundary spanning (Michael, 1995). Boundary setting is an act of discrimination; boundary spanning is an act of extending or facilitating the type of information that flows through the filter. (Michael, 1995)

Though Tushman (1977) agrees that boundaries are the crucial sites for learning and innovation, he found that communication across those boundaries is extraordinarily inefficient and prone to bias and distortion. One of Tushman's concerns, in his study of research and development laboratories, is with the distribution of boundary roles in the organization in the process of innovation. He found that while too many boundary roles may be inefficient,

the number of special boundary roles is contingent on the nature of the innovating unit's work. Thus, the distribution of special boundary roles will not be equal throughout the innovating system.

Instead of studying boundary spanning as an outsider, or theorizing about boundary spanning as learning, Rosell (1976, 1992, 1995) is engaged in the sixth year of a project of participatory action research (Whyte, 1989) that is itself creating a boundary spanning infrastructure—an ongoing learning process or learning system—among a small group of senior level Canadian public servants and representatives of non-government organizations. As a roundtable, they focus on issues that cross boundaries and whose time horizon exceeds that of most planning. They are spending time and energy in a continuing process of constructing shared frameworks of goals and values. In particular, they are searching for new ways of governing, new ways of integrating, more appropriate to a world they refer to as the information society. Their first report outlined the need for learning-based approaches to governing (Rosell, 1992); their second report describes a set of four scenarios for how fundamental changes may reshape the environment for governance over the next decade (Rosell, 1995). The Rosell work is the only one in Table 28 to cover the full range of boundary spanning themes. It seeks to embody the theorizing of Schon, Michael, and others, and is undertaken in the action-research tradition where the researcher is a boundary spanner: an active participant in the group and a conveyer of the knowledge produced or discovered there to the world of scholarship. Rosell (1976) sees that spanning as a single dialectical process, and would thus take issue with the theory-empirical dichotomy into which his work is classified here. The "Changing Maps" roundtable is, however, solid action research to develop individual boundary spanners in the Canadian government and an accompanying boundary

spanning infrastructure that is a learning-based approach to how we organize and govern.

*Boundary Spanning as Horizontal Leadership or Power.* A third dominant metaphor in the boundary spanning literature develops the idea that leadership is preeminently a boundary spanning function at juncture points in the system:

Leadership emerges as individuals take charge of relating a unit or subsystem to the external structure or environment. Leadership is a boundary function, Rice (1963) contends, and is located at the borders where there is a break between parts of the system. The greater the break, the more leeway there is for acts of leadership (Katz & Kahn, 1978, p. 532).

Leadership is centrally concerned with the management of boundaries. At the level of the organization, the act of defining a mission and protecting the integrity of the undertaking (Selznick, 1957) is staking a claim to and protecting a distinctive competence, in essence, managing the boundary between what is inside and what is outside (Miller & Rice, 1967). At the level of the individual, leadership entails managing the complex interpersonal transactions between leader and led. As at the organizational level, the essential skill at this level is the management of boundaries between one's person and one's role, and between oneself and others (Gilmore, 1982, p. 343).

Sherwood (1976) is the illustrative boundary spanning leadership theorist in the set identified in Tables 29 and 30. He anticipated that boundary conditions and turf arrangements would undergo drastic change and that the resulting, heightened interdependence among organizations would have great effects on the role imperatives facing public executives. In a society of organizations, Sherwood foresaw that the public executive would have a major responsibility as ambassador and interpreter of that environment to his or her own organization, accompanied by a decreasing capacity to influence events

within the focal organization. It should be noted that Sherwood and others theorizing that leadership is a boundary function draw heavily on role theory (e.g., Kahn, Wolfe, Quinn & Snoeck, 1964; Sarbin, 1954).<sup>1</sup> They also tend not to limit their leadership propositions to boundary *spanning*, though when they use the term boundary *management* or boundary *function* their assertions bear close resemblance to discussions that occur within the boundary spanning literature.

Strong empirical work *explicit* on boundary spanning as leadership is missing in the reference set examined here. Much of the boundary leadership literature is either totally speculative (arm-chair theorizing) or written by consultants who conduct their interventions in at least a quasi-action-research orientation (i.e., with a view to theorize from their practice and thereby contribute both to the particular situation and to the world of theory). Gilmore (1982) is an example of the latter, when he articulates his theory of leadership as a boundary function, which grew from the interaction between the academic literature and his consulting practice (legal services, health care, social services). He would probably find the term boundary *spanning* too limiting, as his notion is that boundaries are socially constructed, and that, rather than examine flows across an assumed boundary, leaders must look explicitly at the boundary and the politics of its social construction. The authority of the boundary—which once was given (e.g., roles, structures, patterns of relationships, organizational boundaries)—must now be negotiated on a more frequent basis. Cappelli & Sherer (1989), similar to Gilmore, articulate a theoretical perspective and then illustrate how it grew from their study of the boundary between union and nonunion supervisory personnel. Their example concerns how management

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<sup>1</sup>Role theory is an interdisciplinary theory. Its broad conceptual units are role, the unit of culture; position, the unit of society; and self, the unit of personality (Sarbin, 1954). Students of the social sciences frequently make use of role as a central term in conceptual schemes for the analysis of the structure and functioning of social systems and for the explanation of individual behavior. (Gross, Mason, & McEachern, 1958)

redrew the union-nonunion boundary by creating a new job position which combined aspects of both traditional bargaining unit and supervisory jobs. The boundary spanning "Associate" positions are those where workers remain in the bargaining unit for representation but are free to perform tasks associated with the supervisory (nonunion) side, the latter not being part of the definition of the bargaining unit.

Friedman & Podolny (1992) illustrate hypothesis-testing empirical work. Highly relevant to the question of leadership, their study questions the presumption that boundary spanning is performed by one person, and pursues instead the notion that boundary spanning is a differentiated function—more a composite entity comprising multiple types of relations (task and socioemotional) and two potentially independent roles (gatekeeper and representative). In their study of labor negotiation as a boundary spanning process (at a midwestern university negotiating with a faculty union), they found that role conflict could be avoided if several people are in a position to take on different aspects of the boundary spanning function. They point to the structural rather than the psychological causes of role conflict, and imagine organizational rather than interpersonal means of containing it.

*Boundary Spanning as Psychic or Symbolic.* Hirschhorn (1992) is an action researcher (like Rosell and Gilmore above) who contrasts the classical world of boundary spanning as developed by Herbert Simon, James Thompson, and Jay Galbraith, to the subjective properties of boundaries developed by Eric Trist, Elliot Jacques, A. K. Rice, and Eric Miller of the Tavistock Institute, an applied research organization in London, a distinction he regards as complementary. He then illustrates his synthesis using various consulting interventions in which he has participated.

The subjective boundary thesis has three core premises: (1) people set up psychological boundaries when they face uncertainty, feel at risk, and need to

contain anxiety (which they do continually in the workplace), (2) psychological boundaries do not always correspond to formal organizational boundaries, and (3) organizations can function well only when their managers draw and maintain appropriate boundaries in their own roles, and between the organization and its environment, and its different divisions and units. The psychodynamics of boundaries, as Hirschhorn develops them, are inherently paradoxical. For example, boundaries create and contain anxiety:

When inappropriately drawn, a boundary creates destabilizing dependencies so that people are unable to accomplish their tasks. When appropriately drawn, the boundary may highlight risks people face in trying to accomplish their tasks, or it may stimulate the feared consequences of one's own aggression and aggression toward others. In each case, risk and uncertainty are the common denominators, and there is a strong impulse to retreat from the boundary and deny its reality (p.37).

Power and aggression also play a special role. For example, when people fear exercising power and mobilizing aggression at the boundary of the role, task, or organization, they in essence retreat from the boundary, enact a psychological fantasy to sustain that retreat, and then wind up discounting and hurting one another. When people retreat or step out of task roles, they lose sight of the boundary itself and hurt themselves and others, assuming the task role is appropriately drawn. When people occupy task-appropriate roles and master task-appropriate skills, they may be able to stay at the boundary because "the inherent value of the work they do contains their fear of hurting others and being hurt in turn" (Hirschhorn, p. 38).

Boundary spanning from a psychodynamic perspective is also inherently paradoxical. Hirschhorn points out that to enact a role:

We can taking it by facing the real work it represents, or we can violate it by escaping the risks such work poses. When we violate it, we help create and sustain an anxiety



chain through which we hurt our co-workers. At each point along the chain a person violates a role by crossing a boundary. When tasks are not clear, we lack a context for taking our roles . . . (Yet) groups can create stable relationships that support chronic role and boundary violations. As we violate our roles, we can no longer understand what the world outside our group demands of us. Our ignorance in turn supports the ways in which we violate our roles. We enter into a vicious circle in which role violation and ignorance reinforce each other. Thus groups can collectively sustain and reproduce an irrational system of roles (p. 55).

Hirschhorn goes on to observe that if organizational leadership enables its members to understand and relate to the value it creates for customers, members can enter roles linked to organizational purposes. But if the organization prevents members from making these links, they will retreat from the boundary and focus solely (and inappropriately) on the internal dynamics of corporate life.

*Boundary Spanning as Design.* The fifth metaphor that can be distinguished as a pattern in the boundary spanning reference set is inspired by Kirlin's theoretical work on public entrepreneurship (Kirlin, 1994). Though he might be surprised to find himself in a set of asserted "boundary spanning" theorists, Kirlin, like Kettl (1994) above, argues that government creates (designs) the boundary conditions—the frameworks and institutions—within which individuals, businesses, and other nongovernment social groupings can create value. In his frame of reference, boundary spanning would translate to government perceiving its role as sustaining and enhancing collective capacity to choose and to act—by developing new designs in and across five arenas of action (constitutional, jurisdictional and civic infrastructure, policy strategy and policy infrastructure, and program implementation and service delivery) so as to create place, complex system, and product and service values. In Kirlin's public entrepreneurship, defining and spanning the organization-environment

boundary is really only one of many possible interfaces for collective action. Indeed, he would argue that much of the boundary spanning literature, with its emphasis on the organization-environment exchange, is misplaced.

Value creation is found more in design than in management. The organizational arena and products and services emphasized by much traditional public administration literature (and similarly the focus of most reforms) offers only modest opportunities to create value for society (p. 27).

Empirically, Kirilin offers three specific proposals to illustrate how his structured approach to public entrepreneurship could redefine the boundaries of political and administrative action. One example addresses the complexity and contradiction within and between functional and geographic boundaries that define the limits of governmental policy making. He cites the fragmentation among nations, states, counties, cities, special districts, authorities such as air quality management districts, and other function-specific governmental entities, each with policy making powers. He also cites the conflict between ecosystem boundaries defined according to science and the decision, financing, and action boundaries of the state and local governments who affect land use and related activities. His proposal is to standardize the choice making elements of governmental action into stable general purpose governments with stable geographical boundaries, including regional governance structures and neighborhood units.

A second empirical illustration of a design approach to boundary spanning is Steadman's (1992) article addressing the need to better design the interface between the mental health and justice systems. Though the Steadman piece is assuredly not written in the public entrepreneurship frame, it was his association of the boundary spanning concept to issues at the interface of the justice and mental health systems that prompted classifying it in the

design metaphor. That is, Steadman wants to redesign criminal justice-mental health system interactions using boundary spanning positions. He had studied three programs (jail diversion, community forensics, and psychiatric security review) and found that in the better programs, there was always a core position that directly managed the interactions among correctional, mental health, and judicial staff. In doing so, he also calls attention to some of the parameters in the public sector that can make intersystem boundary spanning quite complex:

In justice-mental health settings, law may be more relevant than is typical in the interactions between other organizations. Statutes can severely restrict what can and cannot be done. In fact, in justice-mental health interactions the doctrine of the separation of power between the judicial and executive branches of government can mitigate against the effective performance of boundary spanners. That doctrine demands that each branch have very discrete boundaries that clearly demarcate its functions and spans of unquestioned control. Yet . . . relying on the concept of comity . . . the court's independent status . . . must be achieved without avoidable damage to the reciprocal relationships that must be maintained with others. In both practice and in administrative theory, there is considerable support for the concept of boundary spanners (pp. 78-79).

Taking a design orientation, Steadman also suggests three models of exchanges between two organizations, ranging from one person in each organization to a multiplicity of people in each. The latter, which would also add more than two interacting organizations, better portrays the complexities of improving the performance of justice-mental health system interactions that underlie numerous justice (correctional) programs.

## **8.2 EMERGENCE OF ALTERNATIVE BOUNDARY SPANNING**

### **METAPHORS**

Boundary spanning, though well developed in the organizational literature is not a term that is common or highly visible in the world of practice. The late 1980s and early 1990s have been witness to a plethora of management metaphors to portray asserted "new" ways of doing business, ranging from revolution, to reinvention, to rediscovery, to redesign and so on. In that whirling context, "boundaryless" has arisen as a term that has the appearance of being rather a counterpoint to boundaries and possibly to boundary spanning.

No matter where one enters, to discuss boundaryless is to portray a world of contradictions and protean chaos. Boundaryless in the extant organizational literature is a slogan Jack Welch, chairman of General Electric, popularized to characterize the kind of organization he wanted to create. Welch would forget boundaries and probably even boundary spanning in the classic sense of the latter.

Our dream for the 1990s is a boundaryless company where we knock down the walls that separate us from each other on the inside and from our key constituencies on the outside. In Welch's vision, such a company would remove barriers among traditional functions, recognize no distinctions between domestic and foreign operations, and ignore or erase group labels such as management, salaried, or hourly, which get in the way of people working together (Hirschhorn & Gilmore, 1992: p. 157).

In commending Welch for his vision (they call his assertions eloquent), however, Hirschhorn and Gilmore are quick to caution:

Managers are right to break down the boundaries that make organizations rigid and unresponsive. But they are wrong if they think doing so eliminates the need for boundaries altogether. Indeed, once traditional boundaries of hierarchy, function, and geography

disappear, a new set of boundaries becomes more important. These new boundaries are more psychological than organizational. They are enacted over and over again in a manager's relationships (pp. 157-58).

But if the new boundaries are psychological, turning to that literature—at least to understand boundaryless—will also produce a quagmire. Charles Whitfield, a physician and psychotherapist, offers but one example of the complexity. On the one hand, boundaryless indicates an unhealthy state of codependence.

The actively co-dependent person tends to be fixed in either few or no boundaries, boundarylessness, or the opposite, overly rigid boundaries. And they often flip-flop between these. Because they focus so much attention outside of themselves, they tend to be less aware of their inner life, and thus less aware of their boundaries (Whitfield, 1993, p. 3).

On the other hand, boundaryless indicates a free, open, and refreshing psychic rapport that is the essence of the psychological healing process (not to mention the creative process).

I know now when the time is appropriate to focus on my higher sense perceptions. I can open in deep trust to the process because I trust my own judgment. While these psychic signals are in my awareness most of the time, I have the choice to act on and use them or ignore them. I also have the confidence in my own sorting abilities to recognize what is mine and what isn't. If I decide that it is appropriate to act, I then answer in honesty, all the while being in a boundless state of consciousness. I set aside my sense of separateness, my boundaries, and join for a time with the other. This kind of psychic rapport cannot flourish when people conceive of themselves as *isolated in thought and feeling*. The kind of boundlessness I am referring to leads to a freedom and openness that is rare in most forms of human communication (Whitfield, 1993, p. 248).

Though a literal understanding of boundaryless or boundarylessness would be “no boundaries,” there is clearly much more to it than that, whether one turns to the organizational or to the psychological realms. Those who offer definitions particular to boundaryless, suggest it means:

- not a state of no boundaries, which would be chaos, but a way of managing where distinctions (boundaries) don't get in the way of transferring knowledge, services, and goods in the most efficient way possible (Devanna & Tichey, 1990);
- the permeability of functional, hierarchical, customer, and supplier boundaries (Ulrich, 1990); the tearing down of functional walls that separate in order to provide seamless service (Linden, 1994);
- the process whereby firms blur boundaries which exist in most hierarchical organizations (Ulrich, 1990);
- a new way of managing based on information (Devanna & Tichey, 1990); and
- a remapping of organizational boundaries to emphasize mission (Bergquist, 1993) and psychological boundaries (Hirschhorn & Gilmore, 1992).

With that prelude, it is perhaps instructive to employ a more systematic approach to exploring the boundaryless metaphor.

### **The Anatomy of Boundaryless**

Keywords for boundaryless have been identified in several prior tables as part of the lexical surveys that have been conducted with titles relating to boundary and boundary spanning. Thus far, though, it has not been possible to discern a relationship between boundaryless and boundary or boundary spanning, in particular with respect to the generic classification scheme that has been used to portray a lexical anatomy for boundary (see Tables 23, 24) and for boundary

spanning (Tables 25, 26). As stated earlier, the information in the titles that appeared under the heading of boundaryless did not offer as many leads as did the titles for boundary and boundary spanning.

Table 31 is a preliminary synthesis to show a boundaryless lexicon that emerged from an analysis of outlines prepared for roughly ten to twelve "boundaryless" references. As in the past lexical excursions, that analysis was guided by the generic (interdisciplinary) boundary framework that emerged from Part II (i.e., the categories associated with boundary foundations and boundary dynamics). Once again, the generic boundary categories seemed to be a good, initial descriptive framework to characterize or map some of the elements associated with the term boundaryless, though the distinction between foundations and dynamics seemed stilted (e.g., the keywords in the foundations categories seemed to have a dynamic feel to them).

*Foundations.* Briefly, the foundations for boundaryless appear to exist not only in management, organization, and psychological theory, but also in the turbulence associated with the information economy and a consumer society. Creating boundarylessness looks to be in part an aggressive undertaking (knocking down walls), in part a collaborative activity (create shared goals), and in part a synthetic exercise (e.g., integrated diversity). As in boundary spanning, the idea here seems to be to bridge differences, but in doing so, at least according to the keywords of Table 31, one would not be protecting turf and in fact would be consciously blurring hierarchical boundaries. The boundaries to be "knocked down" and "remade" can run the full gamut, from internal horizontal to political and to geographical. The results might be higher levels of integration, a seamless government, flexible work, and continuous innovation. Equally, the effort might produce boundary violation, codependence, and overly rigid boundaries.

TABLE 31.  
EMERGING LEXICAL ANATOMY OF THE BOUNDARYLESS CONCEPT—PART I: FOUNDATIONS

BOUNDARY LESS THEORY / PERSPECTIVES	BOUNDARY LESS GOALS / VALUES / RESULTS / FUNCTIONS	BOUNDARY LESS: BOUNDARY TYPES	ASSOCIATED TERMS (to boundary less)
1) Management	1) Knock down walls that separate	1) Hierarchical / vertical	1) Integration
2) Organizational Theory	2) Respond more quickly to customer needs	2) Functional / departmental	2) Fluid
3) Psychological Theory	3) Increasing the number of links to create a more extensive social fabric	3) Organizational	3) Paths of exchange
4) Global competitiveness	4) Make new, healthy boundaries	4) Internal horizontal	4) Seamless
5) Information economy	5) Blur hierarchical boundaries	5) External horizontal	5) Permeable
6) Public administration protean and boundless; awesomely multidisciplinary and multicultural; loss of theoretical relevance	6) Different attitude to existing boundaries	6) Strategy processes	6) Ever changing processes
7) Consumer society	7) See and create new boundaries in minds of managers	7) Technology / operation processes	7) Postmodern
8) Unprecedented turbulence	8) Bridge differences	8) Management processes	8) Virtual corporation
	9) Not protecting turf	9) Human resource processes	9) Network
	10) Ongoing adaptation to environmental demands	10) Task	10) Information
	11) Integrated diversity	11) Political	11) Flexible work
	12) Create shared goals	12) Identity	12) Co-dependence
	13) Letting go	13) Authority	13) Few or no boundaries
		14) Geography	13) Continuous innovation
		15) Psychological	14) Boundless
			15) Infinite capacity
			16) Boundary violation
			17) Antonym: overly rigid boundaries
			18) Electronic integration
			19) Relationships



TABLE 31 (continued).

PART II: DYNAMICS

BOUNDARYLESS ROLES & PROPERTIES	BOUNDARYLESS PROCESSES (behavior)	BOUNDARYLESS INFRASTRUCTURE
<p>1) <b>BoundaryLess Role</b> - Not discussed except as leadership role / position or as self-awareness</p> <p>2) <b>Properties of Boundaryless</b> - Boundary disintegration (psychotic) - Fluidity - Boundary blurring - Boundary transparency - Permeability - Openness - Shifting boundaries - Rigidification of boundaries - Boundaries as ripples - Overlapping boundaries - Healthy boundaries - Unhealthy boundaries</p>	<p>1) <b>Boundary making</b></p> <p>2) <b>Boundary blurring</b></p> <p>3) <b>Deregulation</b></p> <p>4) <b>Information</b> - Knows no boundaries</p> <p>5) <b>Flexible Process Teams</b></p> <p>6) <b>Strategy</b></p> <p>7) <b>Human Resource Processes</b> - Joint training and development - Boundaryless career</p> <p>8) <b>Technology / operation processes</b></p> <p>9) <b>Business process reengineering</b></p>	<p>10) <b>Leadership and boundaryLESS management</b> - Boundaryless leadership - Managing based on information - Compete on speed and learning rather than specialization and economies of scale - Recognize which exchanges to encourage - Consider what the chaos may have to offer the organization - Personal authority - Encourage enacting the right boundaries at the right time - Attention to process</p> <p>11) <b>Psychotherapy / Self-Help</b></p> <p>12) <b>Organizational and Interorganizational Development</b></p> <p>1) Dark side of new organizational forms 2) Learning organization 3) Self-renewing organization 4) Reparative organization 5) Task forces and committee structures 6) Enclaves 7) Relationship between organizational mission and boundaries 8) Hybrid 9) Cyclical 10) Intersect 11) Holograms 12) Basketball teams 13) People, not place, are basis for community</p>

*Dynamics.* Unlike the boundary spanning literature, which had a heavy emphasis on the boundary spanning *role*, the boundaryless literature examined is not threaded with role discussions other than to refer to leadership as a boundary management function (which is not equivalent to role). Properties associated with boundarylessness range from a psychotic state of boundary disintegration through to boundary blurring and shifting and on to boundary openness, fluidity, and transparency. Surprisingly little is here from the earlier boundary lexicon (e.g., boundaries as battle zones and battle lines). The processes to achieve boundarylessness are not as differentiated as they were for boundary spanning or boundary. In fact, the most differentiated process is that of leadership and boundary(less) management. Finally, the infrastructure that would either create or be created by a state of boundarylessness is characterized as self-renewing, reparative, hybrid, cyclical, and holographic, all of which have bright and dark sides.

### **Boundaryless in the Five Metaphors**

In addition to the lexical anatomy, boundaryless can also be explored applying the five metaphors for boundary spanning. The boundaryless literature is intensely normative and speculative, and does not lend itself to a theory versus empirical mapping. Boundaryless arose in the practitioner world; academics then sought to develop theories to clarify what it meant (e.g., Ulrich, 1990). Table 32 thus repeats the five boundary spanning metaphors and then shows accompanying keywords and illustrative authors in the boundaryless literature.

In the boundaryless literature, boundaryless can be defined as adaptation, learning, horizontal leadership, psychic symbol, and creating new social, organizational, and systemic designs (though the emphasis is decidedly organizational rather than societal). For boundaryless as for boundary

spanning, those five metaphors are more like a prism than mutual exclusivities.

*Boundaryless as Organizational Adaptation.* Using the image of organizational adaptation, the speculation is that boundaryless describes the organizational form that will enable rapid response to customer needs (Ulrich, 1990) and to the conditions of a turbulent environment (Bergquist, 1993). Boundaryless organizations will be competitive because they are capable of ongoing adaptation to environmental demands. They will have flat network structures, many more links among all members of the organization, and a capacity to mobilize people through shared values (Devanna & Tichey, 1990). Information technology will be a main thrust for bringing organizations together, thus creating transparent boundary conditions among organizations and much greater needs for interorganizational effectiveness (Davidson & Davis, 1990). As old boundaries are dropped or blurred, clarity and commitment of mission become much more important (Bergquist, 1993). The net effect is a crisis of organizational mission and boundaries as we know them.

*Boundaryless as Learning.* Using the image of learning, the boundaryless literature reveals concerns with learning organizations, learning systems, social transformation and values. For example, boundaryless organizations are asserted to compete on speed and learning rather than on specialization and economies of scale (Devanna & Tichey, 1990). To do that, they must be self-renewing organizations, with more democratic processes that involve all levels of the workforce in disseminating knowledge, goods, and services. However, we need to reframe our thinking about organizations. Though he did not use the metaphor of "boundaryless," an implication of Schon's (1971) work is that his learning system model is a boundaryless form of organizing and of

**TABLE 32.**  
**FIVE METAPHORS FOR BOUNDARY SPANNING**  
**APPLIED TO SELECTED BOUNDARYLESS LITERATURE**

<b>Applied to Boundaryless</b>		
<b>Metaphor for Boundary Spanning</b>	<b>KeyWords</b>	<b>Illustrative Authors</b>
Organizational Adaptation to Survive & Be Effective in a Changing Environment	<ul style="list-style-type: none"> <li>• Organizational responsiveness to customers</li> <li>• Interorganizational effectiveness</li> <li>• Ongoing adaptation</li> <li>• Mission and boundary crises</li> </ul>	Ulrich (1990); Davidson & Davis (1990); Devanna & Tichey (1990) Bergquist (1993)
Learning/ Information/ Innovation	<ul style="list-style-type: none"> <li>• Managing based on information</li> <li>• Holism, integration for customer outcomes</li> <li>• Relationship between boundaries (e.g., center-periphery) and organizational learning</li> <li>• Informatization</li> </ul>	Schon (1971); Rosell (1976, 1995); Cleveland (1985); Devanna & Tichey (1990)
Horizontal Leadership and/or Power	<ul style="list-style-type: none"> <li>• Flat network structures</li> <li>• Blur / break down hierarchical boundaries</li> <li>• Bridge cultural differences</li> <li>• Strategic alliances</li> <li>• Boundary path of exchange leadership</li> <li>• Future is horizontal</li> </ul>	Cleveland (1972, 1985); Devanna & Tichey (1990); Hirschhorn & Gilmore (1992); Dreaschlin <i>et al.</i> (1994)
Psychic/Symbolic	<ul style="list-style-type: none"> <li>• Psychological boundaries in relationships</li> <li>• Remapping organizational boundaries</li> <li>• Premodern, modern, postmodern psyche</li> <li>• Boundary rigidification, fluidity, shifting</li> </ul>	Hirschhorn & Gilmore (1992); O'Hara (1994)
Design	<ul style="list-style-type: none"> <li>• No difference between inter- and intra-organization</li> <li>• Seamless government</li> <li>• Boundaryless organization design</li> </ul>	Lincoln (1982); Devanna & Tichey (1990); Linden (1994)

thinking. This is especially true when, as below, the learning system model is contrasted to the rational-bureaucratic model (Schon, 1971, p. 114):

	<u>Rational-Bureaucratic</u>	<u>Learning System</u>
<i>Unit of innovation</i>	a) product or technique	a) a functional system
<i>Pattern of diffusion</i>	b) center-periphery	b) systems transformation
<i>Center</i>	c) relatively fixed center and leadership	d) shifting center, ad hoc leadership
<i>Message</i>	d) relatively stable message; pattern of replication of a central message	d) evolving message; family resemblance of messages
<i>Scope</i>	e) limited by resources and energy at the center and by capacity of "spokes"	e) limited only by infrastructure technology
<i>Feedback loop</i>	f) moves from secondary to primary center and back to all secondary centers	f) feedback loops operate locally and universally throughout the systems network

For Schon, for example, tight boundaries between the center and the periphery are highly dysfunctional to organizational learning. Conversely, the less the sense of boundaries, the greater the likelihood individuals in the organization will take responsibility for their learning. A learning system is a self-transforming network organized around a given social function and characterized by extremely rich internal information flow, a high degree of adaptability, and action based on the metaphor of social learning rather than that of analysis or administration (Rosell, 1976). Since the informatization of society (Cleveland, 1985) appears to be having disintegrative effects on established instruments of governing, new ways of integrating—learning

systems based approaches—are needed (Rosell, 1995). Such approaches will deal at the level of shared values, goals, and interpretations. They will be oriented by a searching, exploratory attitude and rich internal communication flows that enable high levels of adaptability to turbulence.

*Boundaryless as Leadership and Power.* Harlan Cleveland makes the case for the outmoded language used in management to portray role relationships, leadership, organizational design, and the like (Sherwood, 1995). His is one theory underpinning what practitioners might call boundaryless leadership and what academic theorists might call horizontal organizational behavior. He, like Drucker, says that the informatization of society has mindblowing implications for our old hierarchies of power based on control, influence based on secrecy, class based on ownership, privilege based on early access to valuable resources, and politics based on geography (Cleveland, 1985).

The information society does not replace, it overlaps, the growing and extracting and processing and recycling and distribution and consumption of tangible things. . . . The historically sudden dominance of the information resource has, it seems to me, produced a kind of theory crisis, a sudden sense of having run out of basic assumptions (Cleveland, 1985, pp. 186-187).

Dreaschlin et al. (1994) argue that the boundaryless metaphor calls for a new and viable metaphor for boundaries. They advocate viewing boundaries as paths rather than barriers and a process of exchange leadership that “sees the world differently.” Developing a more precise language for psychological boundaries will be an important part of such leadership (Hirschhorn & Gilmore, 1992). Boundaryless captures attention in a way that information, renewal, or learning, for example, do not. It is aggressive horizontal leadership loosely coupled to a reformulated notion of hierarchical leadership. It deals with new boundaries that are invisible or unfamiliar to most managers today.

*Boundaryless as a Psychic State.* O'Hara (1994) thinks it more accurate to assert that we are presently in a transition to a global information society rather than being there. Those who resist seeing that transition, she thinks, respond either with rigidification of boundaries (global neurosis or competing with outsiders, protecting information, playing win-lose games) or with boundary disintegration or boundarylessness (global psychosis or no boundaries, no solidarity, no identity, lose-lose). Those squarely in the midst of seeing and participating in the transition are in a state of boundary shifting (uncertainty, searching, exploring, complexity). O'Hara thinks moving through the transition could lead eventually to a condition of boundary fluidity (where collaboration, diversity with tolerance, creative pluralism, dynamic stability, and contained competition are more the norm). If nothing else, the literature on boundaryless, with its confusion and fuzzy conceptual properties, assuredly reflects O'Hara's sense that we are in the midst of a transition. Her most important contribution is to suggest a framework for the psychic aspects of boundary change. Among other things, that framework is important because it signals that a condition of boundaryless might be equated with a psychotic state. The O'Hara scheme also offers an optimistic alternative: global psychic evolution with fluid boundaries, emergent structures, and excess anxiety transformed into higher levels of excitement and information.

*Boundaryless as Design.* The common theme across all five metaphors applied to the boundaryless literature is simultaneous hierarchical and horizontal change, with an emphasis toward developing the heretofore underemphasized horizontal. In the process, there is an expectation that the hierarchical, though still present, will undergo profound alteration. There is also an emerging trend to change units of analysis, to change the focal point of intervention from the single organization more toward links in a society or web of organizations, where the main point of differentiation is clear mission

and values, purpose rather than size and control. A main driver for the changes is information, which "knows no limits, observes no boundaries, and respects no traditional elites" (Cleveland, 1993, p. xx). Lincoln (1982) makes the point even more vivid. He argues that perhaps there is no reason to treat inter-organization relations separately from intra-organization relations. Instead, the organization-environment tie might simply be seen as "another network link which just happens to span the boundaries of what some observers view as separate organizations" (Lincoln, 1982, p. 27). Business process reengineering is an example of a set of design tools asserted to turn "the walls within and between organizations into networks," create flexible process teams in a "seamless organization," organize work holistically, and leave organizational boundaries fluid, even invisible (Linden, 1994).

### **8.3 SUMMARY AND CONCLUSION**

Boundary spanning in the organizational literature is more anchored in the classical, rational-analytic systems thinking that makes clear differentiations between organization and environment. Boundaryless is a poor metaphor for what it seeks to portray, since its underlying intention is not "no boundaries" but "different boundaries," "changing and fluid boundaries," and "new attitudes for human relationship." Yet there is a sense in which boundary spanning and boundaryless are very compatible. Boundary spanning arose as a concept and practice in the realization that internal and external "divisions" had to be crossed, whether for control, adaptation, survival, or information. Boundary spanning is inherently horizontal and vertical, and so is boundaryless. Moreover, the roots, both theoretical and empirical, for boundaryless can be seen in the boundary spanning literature, where Schon (1971), Michael (1972), Sherwood (1976), Thompson (1967), Leifer (1975) and others laid a ground work for the bridging or going across activity.



Both literatures are normative, with boundary spanning being more anchored in preserving traditional boundaries and decidedly subtle in articulating its value base, and boundaryless being unabashedly normative and valuing Schumpeterian "creative destruction." The boundary spanning literature has a feel of closure to it; the boundaryless literature is more questioning and searching. Boundary spanning seems not to change much at different organizational levels. Boundaryless, by contrast, has ostensibly different positive and negative (or healthy and unhealthy) aspects in individual versus organizational and interorganizational arenas. Reading the boundaryless literature, one cannot help but recall the Peters and Waterman (1982) principles for excellence. Though they did not develop a rationale for change in the language of management theory and practice rooted in increasing availability of information, they assuredly laid the groundwork for simultaneous loose-tight properties emerging in the boundaryless domain.

It could be that all the generic boundary processes are forms of boundary spanning (i.e., boundary change, boundary conflict, boundary creation, boundary management), and that boundaryless is an interim state or boundary property as one seeks fundamental change in an existing boundary structure. Finally, though boundary spanning and boundaryless are not immediately, explicitly noticeable in the titles of the public administration literature, it is clear that the latter body of work does contain important and relevant theoretical and empirical work to shape the contours of both concepts in the public domain. At this point in this literature journey, though, we are still perhaps left yearning for some better or clearer synthesis.

**CHAPTER 9**  
**REFRAMING BOUNDARY SPANNING:**  
**A TRANSITIONAL SYNTHESIS**

“The study of public administration must include its ecology. Ecology . . . is the mutual relations, collectively, between organisms and their environment. An ecological approach to public administration builds, then, quite literally, from the ground up . . .” (Gaus, 1947. pp. 6, 8).

“Why isn’t the harmony that is apparent in natural forms a more powerful force in our social forms? Perhaps it is because, in our fascination with the powers of invention and achievement, we have lost sight of the power of limits. . . . In all realms of our experience, we are finding the need to rediscover proper proportions. The proportions of nature, art, and architecture can help us in this effort, for these proportions are shared limitations that create harmonious relationships out of differences. Thus they teach us that limitations are not just restrictive, but they are also creative” (Doczi, 1994, p. vii).

“Space and time are not containers for events; rather, they are relations between events” (Anshen, 1986, p. 77).

Boundary spanning and boundaryless have to this point been examined descriptively, looking for some of the basic, surface patterns among the seemingly limitless variety of titles and terms contained therein. This chapter seeks to develop a deeper, more parsimonious understanding of these patterns—first by proposing a framework rooted in organization theory that will serve to situate and associate terms like boundary spanning, boundaryless, and information society; and then by using that framework to posit a tentative reframing of boundary spanning which surfaces what appear to be its essential, possibly complementary, opposites. The analysis shows the benefits and the limits of extant boundary spanning discourse in the organizational literature. The thesis developed has three parts. First, boundaryless is a misleading metaphor. All systems have and need healthy or appropriate boundaries. What exists are not conditions of “no boundaries” but discourse and action with respect to rapidly shifting, resetting, and changing boundaries. Second, the term boundary spanning, classically understood, may be a spatialized, rational-analytic way of thinking, talking, and behaving that is inappropriate or

insufficient to the more temporal, value-bound conditions of the contemporary turbulent field, incoherent context, or global information economy that many believe we are now experiencing or are in a transition toward (e.g., Drucker, 1993; Caiden, 1991; Olsen, 1988; Michael, 1989; Cleveland, 1985, 1993).<sup>1</sup> Third, extant notions of boundary spanning need to be expanded, to develop a capacity for “both/and” thinking that accepts apparent if not actual contradictions. The union of boundary spanning, with what lies underneath the boundaryless metaphor (and of both within organizational theory) can produce a needed transitional (temporary, interim, protean) concept and accompanying organizational behavior that could facilitate coping actions in a context that covers, at once, the full spectrum of complexity culminating in the turbulent field.

## **9.1 COMPLEMENTARY CONCEPTS OF BOUNDARY SPANNING IN ORGANIZATIONAL BEHAVIOR**

In prior chapters, and especially associated with boundaryless, reference has been made to a changing world context, a global information economy, and to unprecedented turbulence. In this section, organization theory is used to further develop that association—i.e., between the nature of the context and organizational behaviors such as boundary spanning or boundaryless.

The proposition that environment (or context) and politics, policy, economy, administration and organization are reciprocally related is rooted in ecological and contextualist traditions (which are not identical). The ecological perspective has its origin in natural history and mechanistic physiology.

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<sup>1</sup>I am indebted to the work of Steven A. Rosell as a catalyst for my effort to theorize an association between rational-analytic and spatial; among temporal, learning, change, and non-spatialized; and then linking each to two hypothesized forms of boundary spanning. The work that was particularly instructive was his 1976 dissertation, The Political Truncation of Organizational Learning: A Temporal Systems Perspective.

Ecology was and is a science in which original concepts and methods are often lost in extensions of the term to incorporate almost any idea or ideal concerning the environment taken as meritorious by some group (McIntosh, 1985).

Nevertheless, the contribution of ecology applied to other disciplines is that it endeavors to understand how organisms function in nature in the aggregate, as populations, as communities, and in ecosystems (McIntosh, 1985). Negandhi (1975) cautions that an overemphasis on environmental factors can lead to the belief that individuals are basically passive agents of some external context. To remedy this, the contextualist asserts, in part, that :

Reality is active, ongoing, and changing, in an ongoing process of becoming,

Human activity does not develop in a social vacuum but is rigorously situated within a sociohistorical and cultural context of meanings and relationships, and

Context is not an independent ontological category, but is an integral part of the act (i.e., an act or event cannot be said to have identity apart from the context that constitutes it; neither can a context be said to exist independent of the act or event to which it refers) (Rosnow & Georgoudi, 1986, pp. 4,6).

The essence of boundary spanning is ecological and contextual. Boundary spanning reflects the fact that organizations are almost always referred to in spatial terms—a boundary is necessary to distinguish an organization from its environment, thus that boundary becomes a thing to be guarded, crossed or spanned. However, contemporary boundary spanning is coupled in this essay with the discourse on boundaryless, which is framed partially in spatial terms (e.g., break down the walls) and partially in temporal terms (e.g., speed, learning, relationships, ideas, and meaning-making). The notion of environmental turbulence actually appears in both the boundary spanning and boundaryless literatures, but the idea that boundary work is in

need of radical change (e.g., the “war-like” calls to “break down the walls” versus the more peaceful sounding “span” borders, peripheries, and border zones) is rather unique to the boundaryless literature. An ecological-contextual perspective can help to clear the apparent impasse, at least theoretically.

### **A Generative Framework**

Table 33 uses the seminal work of Emery and Trist (1965) to illustrate how organization theory can help to differentiate these two notions of boundary spanning—i.e., rational-analytic or spatialized boundary spanning on the one hand, and what will come to be called temporal boundary spanning (misleadingly named boundaryless) on the other—by linking them to the possible environmental contexts in which organizations exist. The thesis in Table 33 is that the Emery and Trist typology of organization-environment systems can situate the shifting and presently disconnected literature on boundary behavior. The analysis incorporates the work of Rosell (1976) and Bergquist (1993).

In their classic article, Emery and Trist distinguished four ideal-typical organization-environment systems, ranging from the placid-randomized at the lowest level of complexity or interconnectedness to the turbulent field at the highest level. This hierarchy might also be conceived as defining the different rates of change (temporality) that can occur in complex adaptive systems. For each organization-environment system, they identified an approximate economic analogy and accompanying managerial coping responses. These associations are displayed in the first three columns of Table 33.

**TABLE 33.**  
**THEORETICAL BACKGROUND TO SITUATE BOUNDARY SPANNING AND BOUNDARYLESS**

ORGANIZATION-ENVIRONMENT SYSTEMS (Emery & Trist, 1965)	ECONOMIC PARALLEL* (Emery & Trist, 1965)	COPING RESPONSES (Emery & Trist, 1965; Rosell, 1976)	ORGANIZATIONAL CONFIGURATIONS (Rosell, 1976)	MISSION & BOUNDARIES (Bergquist, 1993)	LIKELY BOUNDARY SPANNING CHARACTERISTICS
Placid, Randomized	Classical Market	<i>Rational-Analytic:</i>  No distinction between strategy and tactics	<i>Spatialized Organization</i> Many small, separate units, very loosely connected (very rigid boundaries)	Clear boundaries between work and family life; mission statements unclear and inconsistent	Little or no boundary spanning so the perspective tends to be inward and turf protecting
Placid, Clustered	Imperfect Competition	Strategy becomes different from tactics	<i>Partial Challenges to Spatialized Approach</i> Larger units in tighter interaction. Survival depends on what the organization knows of its environment	" " "	Some degree of strategic planning & management to deal with the environment, so specialized boundary roles develop
Disturbed, Reactive	Oligopolistic Market	Operations added between strategy and tactics	Many large units of the same type interact and must take each other's actions into account	Boundaries blur in partnerships and alliances; missions still unclear	Strategic planning and management becomes more important, the boundary spanners become more senior and more numerous, there's more focus on partnerships, agreements, different kinds of collusive arrangements, etc.
Turbulent Field	Global Information Economy**	<i>Beyond Rational-Analytic Values;</i> reality-creating; how we construct meanings, how we make sense of the breakdown of the subject-object, organization-environment splits. Social transformation.	<i>Emerging Temporality: Toward Learning Systems</i> Spatial boundaries drop out, become blurred; increase in communication flow; rich interconnection throughout with rapidly shifting boundaries	Crisis regarding mission and boundaries, importance of clear purpose and values	Everyone potentially a boundary spanner? Symbolic interpretations of boundaries; continually redefining boundaries; learning at boundaries; moving beyond boundaries

\*Emery and Trist identify parallels other than economic for the first three organization-environment systems. They say each organization-environment system "corresponds to" an economic configuration, more in the sense of "approximately corresponds" than in the sense of isomorphic correspondence.

\*\*The term global information economy is not identified by Emery and Trist.

Rosell (1976) built on Emery and Trist's implicit comprehension of accelerating change (temporality) and its effects on our ways of thinking and acting (organizing). Rosell's addition to Emery and Trist is to overlay patterns of organization, in spatial-temporal terms, onto their hierarchy of organization-environment systems. Rosell's organizational configurations, are identified in the fourth column of Table 33. They range from spatialized bureaucratic organizational behavior appropriate to dealing with slow rates of change, small basic units, and clear boundaries (in Emery and Trist's placid-randomized environment)—to temporal, value-creating, learning system forms of organizational behavior more appropriate to dealing with rapid rates of change, very large basic units, and a dropping out or blurring of organization-environment boundaries as such (as in Emery and Trist's turbulent field). Rosell wants us to see an increasing emergence of the temporal in the field of complex social organization, as "spatial boundaries ultimately disappear altogether" and experience is approached based on "the metaphor of social learning (valuing) rather than that of analysis or administration."

Shifts in emphasis on organizational mission and boundaries can also be roughly arrayed onto the Emery and Trist typology, as is done in the fifth column of Table 33, using recent work by Bergquist (1993) as illustrative. Finally, the sixth column abstracts from those prior the likely characteristics of boundary spanning behavior in each of the four organization-environment systems.

Much, though not all, contemporary discourse would correlate the industrial or modern era to Emery and Trist's first three organization-environment systems, especially the placid-randomized and the placid-clustered. That same discourse would also link their fourth organization-environment system, the turbulent field, to a post-industrial society or the

transition to conditions that differ fundamentally from those of the industrial age (e.g., Huber, 1984). Using Table 33 and the scholarly works that underlie it, two constructions of boundary spanning can be discerned. The first, rational-analytic boundary spanning, envisions a behavioral gestalt from the first three -organization-environment systems in Table 33 (from placid-randomized to disturbed-reactive). The second, temporal boundary spanning, envisions a different, but complementary, behavioral gestalt emerging from the fourth organization-environment system, the turbulent field.

### **Rational-Analytic (spatialized) Boundary Spanning**

From the low end of the Emery and Trist hierarchy (the placid-randomized environment) to the third level of complexity (the disturbed-reactive environment), an overall pattern of rational-analytic (spatialized) boundary spanning emerges. It incorporates the classical notion that really denies the existence and importance of boundary spanning; emphasizes the drawing of solid boundaries; and recognizes the need for numerous, strategically advantageous linkages between organization and environment. A common feature of rational-analytic boundary spanning is "either-or" thinking (and therefore behaving) and an absence of discourse on norms or values to guide or be implicit in behavior.

Classical notions of boundary spanning are associated with the placid-randomized environment, at the lowest end of the Emery and Trist hierarchy. Emery and Trist suggest that the placid-randomized ideal type corresponds (approximately) to the economists' classical market as well as to Ashby's limiting case of no connection between the environmental parts. This system is composed of many small, separate, very loosely connected units, which thus have very clear, even rigid boundaries. Organizational behavior at this level



makes no distinction between strategy and tactics—the optimal strategy is just the simple tactic of attempting to do one's best on a purely local basis (Emery and Trist, 1965, p. 251). Neo-classical organizational theories, with their intra-organizational focus on the decision set and universal principles of organization and management (e.g., Harmon & Mayer, 1986) support spatialized thinking and behaving in the placid-randomized environment. Spatialization (the drawing of boundaries) is central to their approaches—e.g., in drawing boundaries around “the problem or decision,” or between the subject (observer, decision maker, analyst, detached scientist) and object (observed, client) or between fact and value, policy and administration. In this environment, as in the two subsequent:

Clear distinctions are made between the places where employees work and where they live, relax, and worship. We [know] when we are entering and leaving a modern organization and often define this organization solely by its existence rather than by its specific mission or purpose. Frequently, the absence of a clear mission in modern organizations (was) hidden behind the facade of fiscal accountability . . . Such a statement of mission heightened confusion and inconsistency in the identification and maintenance of long-term goals and sustaining values (Bergquist, 1993, p. 66).

Change in the placid-randomized environment moves slowly and predictably, controlled by the organization and its impartial bureaucrats and analysts. Boundary spanning is intra-organizational (hierarchical) rather than inter-organizational or organization-environment. A main requisite would be to guard intra-organization turf and protect the hierarchical levels. Devanna and Tichey (1990) characterize this as a “backside to the customer, face to the CEO mentality” or an obsession with pleasing the boss as opposed to the customer. The idea of boundaryless, with its orientation outside (or face to the

customer) would be heresy and quite unintelligible in the placid-randomized world.

Boundary spanning emerges as a more externally oriented behavior in the next two ideal-type, organization-environment systems: the placid-clustered and the disturbed-reactive. The latter partially challenge the highly rational-analytic thinking and behaving in the placid-randomized system. Both the placid-clustered and disturbed-reactive systems gradually accelerate change, increase complexity, and begin to break down but not replace the spatialized approaches to organizational behavior that artificially close organizations from environments and regard change as insignificant. For example, Emery and Trist say the placid-clustered environment is characterized by larger units in tighter interaction, and dependent for their survival on what they know of their environment. These conditions, they say, correspond roughly to the economists' imperfect competition. To cope with this, strategy becomes differentiated from tactics, and survival becomes critically linked with what an organization knows of its environment. It can be inferred that specialized boundary spanning roles develop to conduct some degree of strategic planning and management to deal with the environment. Systems theories underpin the placid-clustered environment as they view organizations as wholes demarcated from their surround. Open systems theory in particular challenged the rational-bureaucratic model and made focal the need to span the boundary between the organization and its environment. Even in that theory, though, the aim is to preserve the rational-bureaucratic structure, eliminate uncertainty, and slow the rate of change. (Systems theories underpin all but the placid-randomized environment in this framework.)

Rational-analytic boundary spanning reaches its most fully developed form in the third ideal-type of the Emery and Trist hierarchy—the disturbed-

reactive organization-environment system, which they associate with the economists' oligopolistic market. Many large units of the same type interact and must take each other's actions into account. To cope with this, operations is added between strategy and tactics. Operations is a "planned series of tactical initiatives, calculated reactions by others, and counteractions" (Emery & Trist, 1965, p. 253). It can be inferred that strategic planning and management becomes more important, the boundary spanners become more senior and more numerous, and there is more focus on partnerships, agreements, and various kinds of collusive arrangements. Market organizational theories, with their emphasis on the self-interested individual, the design of efficient structures to allocate resources, and the maximization of aggregate utility (e.g., Harmon & Mayer, 1986) add to, but do not replace, systems theories. Emery and Trist characterize conditions in the disturbed-reactive system as encouraging a certain decentralization and speed of decision at various peripheral points.<sup>2</sup>

In all three organization-environment systems discussed thus far, organizational mission tends still to remain unclear while boundaries (e.g., between home and work, organization and not-organization) are clear. That boundary clarity begins to break down, however, in the disturbed-reactive system, where partnerships, mergers, and acquisitions can cause established organizations to lose or blur their heretofore clear limits.

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<sup>2</sup>Clark (1994) offers a contemporary example of boundaries being studied from a base in marketing, though what he develops in this particular article is perhaps more in the tradition of spatial economics. He investigates the strategic marketing implications of secondary effects of land boundaries, and develops a model of border zone economic activity. Boundary spanning is not an explicit term in his frame of reference; rather, he uses terms like cross-border market size and market area, and cross-boundary product convergence. Another example is public choice theories that seek to redraw the boundaries between representative government and the bureaucracy (Aucoin, 1990).

### **Temporal Boundary Spanning**

The second hypothesized form to be developed from Table 33 as a complement to rational-analytic boundary spanning is temporal boundary spanning associated with Emery and Trist's fourth organization-environment system, the turbulent field. Boundary spanning now changes fundamentally. It moves away from spatialized ways of thinking and behaving toward more symbolic, normative, learning-based ways of thinking and behaving appropriate to rapid rates of change (fluid and rapidly shifting boundaries) and very rich information flow. The theory is that, in the turbulent field, spatial boundaries drop out and become blurred (e.g., the distinction between public and private, the distinction between organization and environment). Systems become denser and more integrated. As the organization-environment distinction blurs, the minimal spatial unit of attention increases to functional areas of society or society(ies) as a whole. Rosell (1976) develops this idea with a beautiful allegory:

For example, imagine a plant. The image immediately called forth is probably a snapshot of a plant, very concrete, very objective, easily separable from its environment. Now suppose we have a film of the entire life cycle of this plant, or better still of several generations of this plant. Running this film at the speed it was taken does not much change our image of the plant: its changes are so slow relative to our own that we can still regard it as essentially a spatial object, concrete and easily separable from its environment. Speed up the film so that its visible change rate approaches our own and the plant appears as a far more sentient being interacting with its environment. It begins to appear more like an animal, more life-like and more subjective, the boundaries between it and its environment are not quite so clear as before. Now speed up the film further so that the rate of changes of the plant is faster than our own. Very quickly, we can see several generations of the plant growing, interacting with the environment, dying, growing anew. The boundaries between the plant and environment

become very difficult to draw--where does the plant end and the environment begin? The throughput of nutrients, the discarding of wastes, the dying of one plant providing nutrients for the next generation are all happening at tremendous speed. The whole map is becoming a turbulent field of rapid and interacting changes, dissolving our concrete, objective, separable spatial images into an ocean of rhythms, processes, temporality--for which music (a form of almost pure temporality) is perhaps the only adequate metaphor (pp. 196-97).

To cope with this situation, Emery and Trist suggest the organization has to add another level of behavior that operates at the highest levels of abstraction. We have to move beyond (but not eliminate) the rational-analytic hierarchy of tactics, operations, and strategy to a level of values and meaning that "have overriding significance for all members of the field" (Emery & Trist, 1965, p. 256).

Behavior in the turbulent field can be linked to organization theories that may not be dominant in the contemporary organizational literature but are articulated as counter-constructions to the rational-analytic schools. Those theories include interpretive, critical theories and theories of emergence. Boundaries, boundary spanning, and boundaryless in these schools are concerned with symbols, language, learning processes, change, values, and meaning.

In the turbulent field, the speculation is that organizations experience a crisis regarding mission and boundaries: organizations tend to become less bounded and more open, and those that survive have some core purpose or mission that provides continuity (Bergquist, 1993). Boundaries (e.g., around roles, departments, divisions, organizations) are more permeable, open, more likely to change and develop, and to require increasingly sophisticated strategies to maintain (e.g., Hirschhorn, 1992). More temporal organizational forms

(learning systems, network structures, appreciative systems) emerge to create meaning through values rather than through the bureaucratic (spatializing) modes accompanying analysis or administration (Rosell, 1976; Schon, 1971; Cummings, 1990).

### **Caveats**

Quite a neat, ordered intellectual world appears to be displayed in Table 33. The picture there is intuitively appealing for those who accept the underlying contextual-ecological premises outlined at the beginning of this chapter. Though such premises have a long tradition in administrative theory (e.g., Riggs, 1991; Dahl, 1947), American public administration lacks an adequate theory of the interrelations between administration and environment. Thus, the analysis here looks to Emery and Trist for help in theorizing about organization-environment systems. Because the present analysis is fundamental or formal, as opposed to substantive (e.g., policy or the particularities of political systems), the Emery and Trist typology is congruent (i.e., it speaks in a parallel theoretical language to that found in boundary spanning and boundaryless). The Table 33 framework will thus be used as a point of departure to further develop the premises of this chapter, with the following cautions.

First, though few organization theorists question the proposition that organizations and environments are interrelated (assuming they accept the validity of the two categories), some question the nomothetic presumption that boundary properties such as permeability (degree of openness to the environment), stability (degree of stability in relations with the environment), and veridicality (degree of information accuracy) are always advantageous. Oliver (1993), for example, argues that organizations may achieve important

strategic advantages from both high and low levels of permeability, stability, and veridicality, "suggesting that openness to the environment, stability in organization-environment relations, and information accuracy in exchanges with the environment are not invariably advisable objectives in boundary management" (p. 15). Certainly her views would be congenially received (if not regarded as obviously true) in political arenas such as the interaction between Congress and the executive branch.

Second, not everyone agrees with the proposition that we presently are experiencing the conditions of a turbulent field (Emery and Trist's fourth organization-environment system). The point here is not whether we are or are not experiencing a turbulent field or whether we are or are not in a transition toward one. Rather, the benefit is heuristic: that is, the turbulent field is an ideal-type, it is theoretically possible, and conceptualizing it provides a useful anchor or bridge for describing and understanding a full range of organizational boundary behavior. On this latter point, one would likely find much less dispute, at least among those who value the world of ideal-type thinking and see its relevance to and even origins in the world of practice.

Third, links between increased boundary spanning behavior and a turbulent context are equivocal in the limited empirical literature examined here. For example, Schwab, Ungson, and Brown (1985) assert:

Open systems theory suggests that boundary spanning should increase as the environment becomes more uncertain and stable. . . . In spite of the intuitive appeal of this hypothesis, it has not been conclusively supported in recent empirical research. Leifer and Huber (1977) suggest that organizational structure, not environmental uncertainty, is the primary determinant of boundary spanning. (Theirs and other) findings can be broadly interpreted as supportive of the view that variations in boundary spanning are best explained by structural or contextual factors (e.g., structure, level, influence) rather than the traditional view that boundary spanning is

principally stimulated by environmental uncertainty and change (p. 76).

Schwab et al. end up arguing that boundary spanning activity is indeed related to environment, but this relationship varies along dimensions of environment as well as by industry. This finding would certainly be consistent with the premises inherent in the Emery and Trist typology. For now, the point is simply to caution that the Table 33 framework is presented as a theoretical possibility. It is here characterized as generative because numerous propositions and contingencies can flow from it, and it is therefore a reasonable, useful, and potentially creative way to move from analysis to synthesis in the present endeavor.

## **9.2 DYNAMICS AND FOUNDATIONS**

With the help of Table 33, and all the prior work in this dissertation concerning boundaries, boundary spanning, and boundaryless, two additional views of an enlarged concept of boundary spanning will now be developed. In what follows, it is important to accept that what is being created is a transitional concept which must be viewed from several angles simultaneously. That condition flows from the following design requirements, which seem to be emerging from all of the literature examined. That is, an enlarged concept of boundary spanning is needed that will:

- Begin to integrate knowledge about boundaries, boundary spanning, boundaryless, and their functioning in a full range of complex adaptive systems,



- Reflect the variety of thought and behavior, theory and practice that has developed over time,
- Be framed in a way that will begin to permit, if not force, reasoning systemically and wholistically in terms of "both/and" rather than "either/or" in organizational boundary theory and behavior, and
- Clearly be transitional, a rough sketch that is (1) an interim gestalt in the search for concepts appropriate to the mixed and escalating contemporary conditions of simultaneous separateness and interdependence, paradox and incoherence, and (2) congruent with the premise that "we really don't know where we are on this matter or what will work for sure. We must discover and rediscover what questions are useful to ask and what approaches we might experiment with" (Michael, 1989, p. 86).

The enlarged concept of boundary spanning being put forth here is, in short, an effort to lay out some images that are clearly protean. At the same time, the aim is to construct some of the bridges that will facilitate moving from the inter- and intra-disciplinary literature surveys toward reinterpreting the two public administration case studies that prompted this inquiry.

#### **Dynamics: A Continuous Cycle of Boundary Spanning Behavior**

One image for an enlarged concept of boundary spanning is cyclical. It aims to distill and link in a simple picture the continuous associations between the

nature of multiple contexts and the nature of what must be a full spectrum of spatial-temporal boundary spanning behavior. This is portrayed in Table 34, which tries to convey the idea of cycles of boundary spanning behavior that navigate or weave, simultaneously, among levels of contextual complexity and in and out of rational-analytic (boundary drawing) behavior and more temporal (values that guide boundary drawing) behavior. It is also a framework that can be used to classify extant knowledge and thereby point to gaps and areas needing further development in theory and practice. For example, at least in this intradisciplinary survey, far more literature (theoretical and empirical) would fall into cell A than into cells B, C, and D (see Appendixes C to F).

Table 34 was derived from a frustration with, on the one hand, hierarchical reasoning, and on the other, an intuition that "both-and" thinking would be needed to comprehend what appeared to be much contradiction (e.g., "either" placid-random "or" disturbed-reactive but not both). For example, looking at the distinctions among the four organization-environment systems and the accompanying organizational behaviors (e.g., the coping responses), Rosell concluded that Emery and Trist really articulated two parallel hierarchies:

Emery and Trist thus seem to propose two parallel hierarchies: one describing some of the observable characteristics of the organization-environment system, seen from the perspective of an outside observer (i.e., the hierarchy from placid-randomized to turbulent field), and the other defining the experience of that situation, in terms of the coping mechanisms employed by an individual actor or agent in the system (i.e., the hierarchy from tactics to values). However, whereas the observer's hierarchy (from placid-randomized to turbulent field), seems to be constructed from mutually exclusive ideal-types, the agent's hierarchy (from tactics to values), seems to be constructed from coping mechanisms that are

always present, but whose relationship and importance change as we move along the hierarchy (p. 210).

The synthesis in Table 34 supports the proposition that Emery and Trist have developed what seem to be two parallel hierarchies, but argues that it is insufficient to say that the organization-environment systems are mutually-exclusive ideal-types as experienced by the individual actor or agent. Rather, they exist simultaneously. Even Emery and Trist noticed that: "[Our] typology . . . identifies four 'ideal types,' approximations to which exist simultaneously in the 'real world' of most organizations, though the weighting varies enormously" (p.261). Certainly it seems confusing to suppose that "an environment" can be more than one of the four ideal types at any given time. On the other hand, "environment" is a matter of perspective. Actors (practitioners) and observers (theorists), whether the same or different people, can and do disaggregate "environment" to distinguish an immediate, focused, normative environment that an institution has with other specific institutions and organizations from a more diffused environment of elements in society which cannot be clearly identified by membership in formal organizations (Esman, 1969, 1972; Blaise, 1964; Sherwood, 1975). For example, public sector agencies in Canada might share a common global context, but each agency can simultaneously face a very different immediate environment (Caiden, Halley, & Maltas, 1995). Central agency actors may emphasize the more diffuse (global)context; line agencies may have to engage both. Countries might share a common global context but each face different immediate contexts. Thus, it is entirely possible that the immediate environment could be of one Emery and Trist ideal type and the more diffused environment another. The point, for boundary spanning organizational behavior is that the "boundary spanners"

**TABLE 34.**  
**TOWARD A FULLER, CIRCULAR IMAGE OF BOUNDARY SPANNING**

<i>Degree of Contextual Interconnectedness / Turbulence</i>	<i>Nature of Boundary Spanning</i>	
	<b>More Spatial Boundary Spanning</b>	<b>More Temporal Boundary Spanning</b>
<b>Less Turbulent</b>	<p align="center"><b>Traditional Boundary Spanning</b> Strategy, operations, tactics (e.g., Thompson, 1967; Miles, 1980)</p> <p align="center">(A)</p>	<p align="center"><b>E.G.: Seamlessness</b> Break down walls; Blur boundaries; Seamless; Boundaryless (e.g., Schon, 1971; Ulrich, 1990; Linden, 1994; )</p> <p align="center">(B)</p>
<b>More Turbulent</b>	<p align="center"><b>E.G.: Public Entrepreneurship</b> Combine value creation, strategy, operations, tactics to new arenas of action (e.g., Kirilin, 1994; Fosler, 1994)</p> <p align="center">(D)</p>	<p align="center"><b>E.G. Values: Learning</b> Create new meaning, questions, ongoing contextual interpretations (e.g., Schon, 1971; Michael, 1972; Rosell, 1995; Harmon, 1995; Catron, 1995)</p> <p align="center">(C)</p>

would have to be able to distinguish and behave appropriately, and simultaneously, in what would appear to be fundamentally different and contradictory organization-environment systems.

All of this leads to the visualization of behavioral-normative circularity in boundary spanning. Though one can enter the circle anywhere, this description will begin with cell A, here regarded as traditional or classical boundary spanning, which includes the coping responses pertaining to strategy, operations, and tactics. These are well developed, theoretically and empirically, for conditions that are less than turbulent (cell A, more spatial). And they are still needed today (see Appendix C for sample bibliography). At the same time one is experiencing those conditions, though, one is also engaged in boundary spanning behaviors to “break down walls” that are continually created in cell

A, as well as to blur boundaries, and create conditions of seamlessness, learning, or greater integration (e.g., of policy, service delivery, customer service, whatever). Cell B, then, is more temporal boundary spanning, occurring simultaneously and as a necessary complement with traditional (rational-analytic or spatial) boundary spanning in cell A. Boundary spanning in Cell A and Cell B requires coping behaviors appropriate for conditions that are less than fully turbulent. Much of the recent literature on boundaryless would be classified into cell B (see Appendix D).

Just as the activity of "creating and breaking down boundaries" is a continuous one (continual resetting of boundaries), so too is another sort of boundary spanning that is positioned in cell C. New values, new interpretations, new questions to surface the new values are needed to guide and flow into the other cells and to develop concepts and interpretations that embrace the turbulent conditions as well as the less than turbulent conditions. Cell C is boundary spanning which is more temporal, producing information at a level of abstraction (language) appropriate to a more fully turbulent context yet simultaneously connecting that with all the other contexts.<sup>3</sup> Boundary spanning as learning is one metaphor appropriate here (see Appendix E for additional references that would join this classification).

To complete the circular flow, another part of the continual movement is the need to integrate and apply the new values (from Cell C) into a spatialized organizational world—to interpret and shape the continually changing boundary conditions into actual new designs, new arenas of action,

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<sup>3</sup>Rosell's (1995) work, for example, describes an effort to develop shared mental maps and models, new ways of perceiving and valuing more appropriate to a world of rapid change and increasing interconnection, among a senior group of Canadian government officials and private sector executives. The project is an ongoing, cumulative effort to build a learning infrastructure, in the spirit that creating new values is an ongoing process and new mechanisms are required to carry it out.

which are new areas, new spaces of activity, new boundary conditions for collective action, being legitimized in language and actions (levels of theory and practice) appropriate to the more turbulent field (cell D, more spatial).<sup>4</sup> The need to redefine the spectrum of boundary conditions in the political-societal system may be a language and behavior occasioned by the turbulent field. However, the process and outcomes of doing so must follow-through into the full cycle of boundary spanning behavior, to cover, as well, the conditions in less than turbulent fields. Examples of literature that would be classified in cell D are in Appendix F, which seems at this time the most weakly developed as far as range of literature.

#### **Foundations: Metaphoric and Lexical Images Accompanying Cyclical Boundary Spanning Behavior**

A second synthetic image, still roughly sketching an enlarged concept of boundary spanning, and designed to complement the cyclical images above, is one that associates the five metaphors of boundary spanning with the lexically-derived boundary categories. Table 35 shows the shell that forms another transitional bridge that can be crossed to apply the fundamental language being produced here, to reinterpretation of, for example, the case studies driving this inquiry. The five boundary spanning metaphors are identified in the columns of Table 35. The rows show the generic, lexically derived boundary categories that can be used to describe knowledge and practice within each of the five metaphors. Also within each of the five metaphors, it is possible, at this stage

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<sup>4</sup>Kirilin's (1994) work, for example, is an integrated approach to reconceptualize and revitalize the public sector of any nation. In his framework, public entrepreneurship most commonly creates value for society by changing the design of a social system. He, like Rosell, is developing a new language to provide understanding of a different approach and to provide legitimacy to new policies and new individual behaviors. Kirilin's 1994 work does not include a dimension (or value) for time or change, though in the scheme of Table 37, that dimension is to some extent covered in cell C. Fosler's framework of governance (1994) is also synthetic and more explicit with respect to the dimension of time as change.

of what we know and don't know, to roughly demarcate the nature of rational-analytic (R/A) boundary spanning and the nature of more temporal (Temp) boundary spanning, according to the lexically derived boundary categories shown in the rows of Table 35. To show this more concretely, the bottom row of Table 35 also indicates a set of appendixes that sketch, preliminarily, some of the key words that surface an image of rational-analytic and temporal boundary spanning for each of the five metaphors. Moreover, rational-analytic and temporal boundary spanning spill into each other—the boundaries between them are fluid; the key words describing them are not always polar opposites. That, it seems, is the price we have to pay to produce transitional concepts.

**TABLE 35.**  
**SHELL FOR KNOWLEDGE AND SKILLS TO PRACTICE CYCLICAL BOUNDARY SPANNING**

<i>Boundary Spanning Metaphors</i>										
<i>Lexically-Derived Categories:</i>	<b>Adaptation</b>		<b>Leadership &amp; Power</b>		<b>Learning &amp; Innovation</b>		<b>Design</b>		<b>Psychic Aspects</b>	
	R/A	Temp	R/A	Temp	R/A	Temp	R/A	Temp	R/A	Temp
<b>Boundary Theory / Perspectives</b>										
<b>Boundary Values</b>										
<b>Types of Boundaries</b>										
<b>Boundary (spanning) Roles</b>										
<b>Boundary (spanning) Processes</b>										
<b>Boundary (spanning) Infrastructure</b>										
<b>APPENDIX:</b>	<b>G</b>		<b>H</b>		<b>I</b>		<b>J</b>		<b>K</b>	

R/A=rational-analytic or spatialized boundary spanning. Temp=temporal boundary spanning.

### 9.3 REPRISE

Boundary spanning—the behaviors associated with importing and exporting information and energy exchanges between organization and environment—originated as a rational-analytic concept within the systems theories, and for many years has been conceived as a spatialized approach to organizational behavior. That is, organizations had to be distinguished from each other and from their environments, and then that organization-environment division increasingly had to be “spanned” if the organization was to survive.

Using the Emery and Trist typology, and assuming that we are today experiencing the full range of organization-environment systems depicted there, this chapter has developed, as a transitional synthesis, an enlarged concept of boundary spanning to include both rational-analytic (or more spatialized) thinking and behaving along with more temporal (learning, normative) thinking and behaving. The enlarged concept proposes:

- 1) that boundary spanning be conceived as a continuous cycle of contradictory, complementary behaviors that recognize the simultaneous existence of more and less turbulent conditions and the accompanying need for both more spatial and more temporally oriented theory and practice, each to inform the other, and
- 2) that the boundary spanning cycle have, as a complement, a map of accompanying boundary dynamics and foundations to guide (a) the reinterpretation of extant knowledge and practice, and (b) the development of new horizons, and



- 3) that all of these conceptions build on what we already know from the study of boundaries in many disciplines, and make associations to the metaphors prominent in organizational behavior and in its literature on boundary spanning.

All the aspects of this enlarged concept of boundary spanning—from the organization-environment systems, to the twin notions of rational-analytic (spatialized) and temporal boundary spanning, to the continuous cycle of boundary spanning behavior, and finally to the dynamics and foundations accompanying that cycle—are conceived as a beginning synthesis of Parts II and III of this dissertation. They are also designed to be “conceptual bridges” that can aid in making the journey back to the two case studies, with the hope of achieving either an enriched reinterpretation of the boundary conditions observed there, or the stark realization that such an exercise will, after all this, be less fruitful than anticipated.

## Part IV

### CONCLUSIONS

"Though enduring systematic theories about man in society are not likely to be achieved, systematic inquiry can reasonably hope to make two contributions. One reasonable aspiration is to assess local events accurately, to improve short-run control. The other reasonable aspiration is to develop explanatory concepts, concepts that will help people use their heads . . . when we (have to) step outside the range of our experience" (Cronbach, 1975, p.126).

"To inquire into the deeper things of life, the mind must be free; but the moment you learn and make that learning the basis of further inquiry, your mind is not free and you are no longer inquiring" (Krishnamurti, 1964, p. 196).

#### **Introduction to Part IV**

This dissertation has been a search to develop some foundations to produce a formal concept of boundary relevant at least to the two public administration cases and a quest to assess whether boundary would be a fruitful unit—of analysis and action—with respect to my future involvement in executive and organization development efforts. The inquiry has been conducted at several levels. First, it has been an effort to find a fundamental, descriptive language that might underpin work to respond to what the National Academy of Public Administration panel stated as the need for "new interlocking roles and new mechanisms for cooperative public management at key interfaces of our central government." Second, the dissertation has been designed to help me to "get a theoretical framework in which to put things" (Allport in McGregor, 1966), even if that framework is regarded as a temporary device to make sense of past and future issues in my immediate milieu. Third, the dissertation has been designed as an experiment in building a theory-practice bridge, by anchoring both its origins and its conclusions in two limited areas of practice in which I am participating, and by taking the passage between them as a voyage through some seas of information that were quite unfamiliar and

uncharted, at least to me personally. In that process, the role of the two public administration cases shifted. Though they were originally envisioned as ground anchors (Bergquist, 1993), solid holding points that would prevent the excursion through the literature from going too far adrift, I came to regard them more as sea anchors in the sense that they would have both to change and remain the same as a consequence of the search just completed through the vast literature on boundaries.

The purpose of Part IV is to weave the above levels together in a way that will fulfill its role of being both an ending to an initial exercise in concept-building and a beginning to a time of translating and enriching that learning in future practice. Chapter 10, as the final dissertation segment, marks the end of my intensive engagement with the vast literature on which we can draw to develop a formal concept of boundary. As such, the chapter is also a theory-practice point of departure—a bridge linking the experiences outlined in Chapter 1, to the foundational work that developed categories and relationships for the boundary concept, and both of those to future practice and research. The full design for the bridge being imagined is obviously rather protean at this point and assuredly a work-in-progress.

**CHAPTER 10**  
**TOWARD A FORMAL CONCEPT OF BOUNDARY**  
**LINKED TO TWO PUBLIC ADMINISTRATION CASES**

“The function of theory, it is well to remember, is not simply to provide explanations; it is also to raise useful questions and, perhaps most important, to identify the most fruitful unit of analysis for coming to grips with the central problems in a field” (Salamon, 1981, p. 256).

“It’s fine to start with a question, but you can’t leave it as a question. People tell me you have the right to experiment and I would say, no, I don’t. I have the right to make it work. The ultimate point of a piece for me is that it drives the next one. Does it open new doors? That is the success of a piece” (Twyla Tharp, 1995).

To try to respond to the many demands being called for in a chapter of this kind, three broad discussions will be presented. First, it will be useful to summarize briefly the main findings from the two literature surveys just completed, i.e., the inter- and intra-disciplinary surveys of boundary, boundary spanning, and boundaryless. The summary is not a verbatim recapitulation of the two surveys. Instead, the aim is to use this as an opportunity to extend the learning process, the continuous effort to craft a formal concept. The summary of the two literature surveys is a prelude to the next section, which illustrates how the discoveries made during the surveys might be used to test—to redescribe, reinterpret, integrate, and advance— theory and practice in the two interventions outlined as the catalysts for this inquiry. In so doing, the expectation is that some of the strengths and limitations of the survey findings, on their own terms and in their application to the two case studies, will be made manifest, the resulting sense of which will be conveyed in the final section, aptly titled “horizons for future learning.”

### **10.1 A BRIEF SUMMARY OF THE TWO BOUNDARY SURVEYS**

In the tradition of grounded theory inspired by Glaser and Strauss (1967) and Strauss (1987), the concept of boundary was identified as a core phenomenon in empirical work, conducted over the course of several years, that might be worthy of further investigation. The very useful recommendation from the grounded theory perspective was to find a concept (here boundary) within a substantive domain of activity (here the congressional-executive relationship and leadership development among House and Senate congressional staff) that would lend itself to formal reconstruction—moving beyond the particulars of the substantive origins while simultaneously enriching them. As a first step in what is clearly a long-term endeavor, the approach to developing a conceptual language—a grammar, a set of categories for boundary—in this dissertation has been to conduct two literature surveys, one interdisciplinary and one within the organizational literature.

#### **Interdisciplinary Survey: Nature and Use of Boundary**

An *interdisciplinary* survey was conducted with the goal of producing a generic, descriptive framework for the boundary concept that would provide a broad sense of how its essence and contours had been shaped across many areas of thought. The main findings can now be distilled with respect to four areas: essence, contours, time, and perspectives.

*Essence.* Boundary is a fundamental notion, at once simple and complex, consistent and paradoxical. Boundary is a line, a region, or a zone that divides, separates, sets limits, or is the limit itself. Whether in the physical, behavioral, or symbolic realms, what goes on at the boundary says a great deal about what happens in its immediate surround or on either side. Boundaries are loci of contact, matter-energy flows, exchanges, and conflict.

Indeed, most boundaries are "highly charged" places of contact, involving power, ritual, and conversion from one form to another. Boundary refers more to area and content in contrast to boundless which evokes more a sense of space implying unbounded. Boundaries symbolize the distribution of power in society and can define the terms of their identity and their progress. As Lord Curzon said (Clark, 1994), boundaries are "the razor's edge on which hang suspended the modern issues of war and peace"—to which today, we might add, they are the razor's edge on which hang suspended the postmodern issues of self and other, prosperity and demise, to name a few.

Boundary is a well developed and explicit concept in the physical sciences, with a highly particular and quantitative set of expressions that define boundary conditions in real or abstract space. That language is not easily incorporated or assimilated into the social and behavioral sciences or accompanying professional practice areas, and of course legitimate questions might be raised as to whether and why it would or should be. Boundary is more an implicit concept in the natural (life) sciences, and it is not clear how it would be regarded in the fields of medicine. Boundary is richly, but qualitatively developed in many of the social, behavioral, and administrative sciences, where the boundary language is more conflict-laden, normative, and concerned with processes ranging from boundary making to boundary busting and to boundary revitalization. A broad sense emerged that, for those disciplines explicitly concerned with boundary as a formal concept, the focus was on its role as setting limits, separations, and divisions of interest to the particular discipline. Comparatively less emphasis seemed given to what might be regarded as the interlocking nature of activity within the boundary area itself (though that may be less true in the physical sciences), a fact that prompted at least one social science observer to recommend that the term

interface really ought to replace boundary, as interface expressed more the duality inherent in boundary as both a place of separation and connection.

*Contours.* An initial hypothesis emerging from the interdisciplinary survey is that the subject matter of boundary can be organized descriptively according to two broad categories: boundary foundations and boundary dynamics. Boundary terms in the physical sciences were excluded in developing this framework. Within those two broad categories, a number of sub-categories emerged as a tentative classification scheme to sketch a more detailed terrain of the boundary concept. For boundary *foundations*, those sub-categories were: boundary theory; boundary goals, values, significance, and functions; types of boundaries; and terms associated with boundary. The sub-categories associated with boundary *dynamics* were: boundary roles, boundary properties or characteristics, boundary processes, and boundary infrastructure. Generic boundary processes identified were boundary making, boundary conflict and power, learning and boundaries, boundary administration and management, and boundary change. Two boundary terms, apparently unique to the organizational literature were outliers, of sorts, and could not be fit into either boundary foundations or boundary dynamics or the sub-categories therein: boundary spanning and boundaryless.

The subject matter of boundary can also be discussed thematically, within and across those categories, according to people who regard themselves, and are regarded by others, as boundary theorists. One of their main struggles has been to conceptualize a typology of boundary types. In social systems, for example, boundaries can be spatial (e.g., nation-state) or non-spatial (e.g., images, ideas, attitudes, perceptions).

*Time.* At least in the human disciplines, the functions of boundaries are known to change throughout history. An especially intriguing finding

was the suggestion that interest in boundaries, by scholars and practitioners, increases dramatically during times of great boundary change. In the past, such changes have often been associated with the conclusions of world wars, and the focus has typically been on demarcating or rearranging land boundaries to mark the territories of nation-states. Today, it seems, there is an increasing interest in the functions of boundaries, but the attention is less on land boundaries and more on symbolic boundaries or boundaries that are hard to perceive and are even escaping our attention (e.g., those boundaries determined by our concepts, our ways of thinking, our relationships, and flows of information). All social groups were noted to grow very attached to their boundaries (land and otherwise) and to resist boundary change strongly. Yet there are those of the view that the dominant metaphors of today are actually encouraging the maintenance of numerous boundaries that contribute, profoundly, to inadequate responses. Finally, there is an emerging sense (which has roots at least in political geography) that boundary making is a continuous process, best regarded as an ongoing activity rather than a once-and-for-all proposition.

*Perspectives.* In addition to being a unit of interest in the international domain (e.g., nation-state demarcations), interest in boundary as a focal concept is often associated with a systems approach or systems perspective to thinking and acting, which calls attention to wholes, parts, and their surrounds (environments, contexts), sometimes as separate ontological categories, sometimes as epistemological, and sometimes as phenomenological. Within the interdisciplinary survey, speculation emerged that the roots for a useful next generation approach to boundary might lie within the managerial or public administration approach, which was regarded



as having "the strength of being eclectic" and the weakness that "it lacks the conceptual rigor of a disciplinary framework" (Johnston, 1988).

### **Intradisciplinary Survey: Nature and Use of Boundary Spanning and Boundaryless in the Organizational Literature**

Johnston's suggestion, the experiences leading to this inquiry, and the uncertain status of the relationship of boundary spanning and boundaryless (to each other and in the descriptive framework for boundary as a whole), defined the parameters for the second literature survey. The *intradisciplinary* survey was conducted within the organizational literature to "get underneath" the surface pattern for boundary, identified above, so as to speculate about the nature of and possible relationships among boundary, boundary spanning, and boundaryless. The main finding was that we need an expanded, transitional concept of boundary spanning that links it with what is known about boundary, the conditions described by the boundaryless slogan, and the range of organizational behavior associated with different contexts (the complex of ecological, energy, economic, and social changes broader than the focal organization). Some background points are useful to recall before summarizing the essence of the proposed expanded boundary spanning concept.

*Essence.* Boundary spanning, classically understood, is at heart a process or behavior that happens "at and across boundaries." Such boundary spanning is a process of exchange, communication, and linkage between an organization and its environment or between two systems with conflicting aims. Its literature has an emphasis on preserving the organization of origin, or adapting it, or making it more competitive or more innovative. People and information technology "do" boundary spanning, generally at potential

high personal cost and accompanying potential high reward. Boundaryless, though a terribly misleading metaphor, describes an aggressive form of boundary spanning that seeks to break down the boundaries that make organizations rigid and unresponsive, and replace them with more healthy, appropriate, flexible boundaries. The boundaryless literature has more of a focus on changing the boundaries inside an organization so that the organization can be more responsive to and more driven by those outside (typically regarded as customers).

*Contours.* The descriptive boundary framework generated in the interdisciplinary survey was a good scheme within which to classify sub-elements of boundary spanning and boundaryless (i.e., the scheme could be applied to each term). Boundary spanning is an explicit concept, at the level of titles, in the business management and education literature. If it is an explicit concept in the public administration literature, it is well below the level of titles or appears in titles not examined in the scope of the present inquiry. Boundary spanning literature can be classified as primarily theoretical or primarily empirical, and in that process, five metaphors can be abstracted as simultaneous images for the activity: adaptation, learning, leadership and power, design, and psychic aspects. The boundaryless literature examined here is all theoretical and speculative, but can also be discussed with respect to the five metaphors.

*Expanding the Concept of Boundary Spanning.* Boundary spanning is inherently ecological or contextual as well as organizational / institutional. When it is associated with a theoretical framework that focuses on that (organization-environment) relationship, in particular, on rates of change in ideal types of organization-environment systems, then the need for expanding the classical notion of it (outlined above) is made quite striking. The Emery

and Trist framework was used as a springboard to illustrate how such an expanded concept might be conceived. In a nutshell, in the proposed expanded concept of boundary spanning:

- 1) It is assumed that organizations today are in environments that are simultaneously more and less turbulent.
- 2) It is assumed that boundary spanning can be both rational-analytic and spatialized (using strategic planning and management to link bureaucratic organizations to their environments) and it can be more temporal (concerned more with ongoing creation and interpretation of symbols, purpose, and values when spatial boundaries break down or no longer make sense).
- 3) It is proposed that a full (synthetic) concept of boundary spanning thus calls forth the need for apparently contradictory forms of thinking and behaving at the same time.
- 4) It is proposed that the appropriateness of having to choose one or the other form of boundary spanning, or even one or the other state of an organizational context, is over-ridden by viewing boundary spanning as a continuous, cyclical process wherein all forms of boundary spanning must be performed

simultaneously amongst all forms of organization-environment systems, though not necessarily by one person.

The cyclical framework generated by the expanded notion of boundary spanning (see Table 34) can be used to classify the current state of knowledge relevant to each of its four cells. For example, much of the literature outlining what I have called "classical boundary spanning" falls into the quadrant of rational-analytic boundary spanning for less than fully turbulent environments. Work is underway in each of the other three quadrants, but it is definitely more emergent. Indeed, it is quite difficult to give each of the other three quadrants any sort of definitive metaphoric label, so all that has been done here is to illustrate each with a theme that can be suggested from the literature classified there. Finally, the expanded notion of boundary spanning hypothesized in Table 34 can also be described with the metaphors of adaptation, learning, leadership and power, design, and psychic aspects, provided each metaphor is developed using the twin aspects of the rational-analytic (or more spatial thinking and behaving) to complement the more temporal (learning, value-bound) way of thinking and behaving.

### **Conclusion**

Taking the terms together, boundary seems more the noun "the what" (what is the limit that is being perceived, spanned, or changed). Boundary spanning is more a verb "the how" (the activity or movement across, between, or beyond the limits). For this reason, it could be that all the generic boundary processes (i.e., boundary making, boundary change, boundary conflict and power, boundary leadership and management, boundary learning) are really *boundary spanning processes*, rather than simply *boundary processes*.

Boundaryless is more complex. It is either an adjective (a bad modifier aiming to describe a desired improved state or condition of boundaries regarded as too limiting), or a noun (a result of an aggressive form of boundary spanning, and not intended to refer to a literal state of no boundaries), or a verb (the activity of breaking down or changing the unhealthy boundary into a healthy one or vice versa). Boundaryless is probably more a matter of degree, but the term is still misleading as a metaphor. It misses the fact that what we may really be seeing is a condition of rapidly shifting and changing boundaries, not a condition of no boundaries. Boundaryless is also dangerous because all systems have and need healthy and appropriate boundaries. To suggest otherwise is to invite chaos. The notion of rapidly shifting boundaries carries one back to basic notions about change. The conviction that boundaries are always shifting is a part of assuming that an organization and its environment are constantly changing. Boundaryless assumptions would seem very important in building a commitment to the idea of the changing organization and the changing unit of organization.

For all these reasons, boundaryless is difficult to pigeonhole into the descriptive boundary framework (of boundary foundations and dynamics), but, interestingly, that framework is very helpful as an overlay for classifying key elements within boundaryless. If boundaryless, though a poor choice of words, fits anywhere within the generic framework, it is probably best developed as a goal or value in boundary foundations or as a property and activity associated with boundary dynamics or both. Eventually, in the process of fitting what is intended by the boundaryless term into the generic framework, that scheme might itself undergo revision with respect to its main categories and sub-categories. Much less difficulty is experienced fitting what is understood by boundaryless into the expanded concept of boundary

spanning described in Table 34 and summarized above. The latter framework lets the boundaryless literature be the temporal complement to the more spatialized, classical boundary spanning literature, and associates both with the less than fully turbulent field.

Thus, boundaries (limits, distinctions) are fundamental and pervasive. To create and manage them, to continually change and re-perceive them, requires temporal and spatial boundary spanning—thinking and behaving appropriate to the full range of rates of change and complexity. The hypothesized cycle of boundary spanning behavior is a theoretical effort to move beyond "either-or" thinking and behaving (e.g., "either" spatial "or" temporal) toward "both-and" thinking and behaving (e.g., "both" spatial "and" temporal, "both" fully turbulent "and" less than fully turbulent, "both" bureaucracy "and" learning systems). This framework is speculative. It suggests that we really don't know much about either the full cycle of boundary spanning or the thinking and behaving appropriate within and among the elements of that cycle.

## **10.2 TESTING EMERGING THEORY AGAINST TWO PUBLIC ADMINISTRATION CASES**

Now is the time to move from the rather abstract discussion above and see whether and how it might be used to re-perceive, re-describe, re-interpret, integrate, and advance theory and practice in the two interventions that prompted this inquiry into boundary. Given the amount and nature of information that has been discovered in the two literature surveys, that process of testing as re-interpretation, might well be the subject of a book-length treatment. Such an effort is well beyond the scope of the present inquiry, so the immediate aims are more modest and illustrative rather than

comprehensive. Each intervention will be redescribed (Tables 36 and 37) using the boundary lexicon that emerged principally from the interdisciplinary survey. Next, both interventions will be joined in a speculative and diagnostic way (Table 38), using the expanded notion of boundary spanning as synthesized in Table 34 and summarized above. Comments and suggestions for other extensions will be identified in the closing section to this chapter.

### **Beyond Distrust in the Boundary Anatomy**

When the unit of analysis is "boundary," the body of NAPA-related work outlined in the Chapter 1 for Congress and the executive branch can be discussed at several levels: (1) overall, using the full NAPA report or the full Gilmore and Halley book or both; (2) for particular conceptual elements (e.g., for the five hypothesized styles of congressional co-management or for the recommendations of the NAPA panel); or (3) at the level of particular case studies or elements therein. In this section, the boundary anatomy will be used as a skeleton within which to re-examine the full NAPA report, *Beyond Distrust*. The exercise will be illustrative. At the outset, it should also be stressed that other units of analysis are assuredly possible and relevant for purposes of reinterpreting *Beyond Distrust*. For example, at the level of substantive theory, the congressional-executive relationship was the unit used to write the report. Policy type might be still another fruitful unit of analysis. Both of the latter tend to produce substantive theory, though policy is more akin to boundary in being potentially at the level of a formal concept, whereas congressional-executive relationship is clearly substantive. What is happening in this exercise is a joining of formal or foundational work back to

a substantive domain, as an informal test of the former toward enriching understanding of the latter.

Table 36 shows the results of applying the descriptive boundary categories—the boundary anatomy—to *Beyond Distrust*. At a minimum, this is a much better organized picture of some of the boundary theory developed by this NAPA panel, though they clearly did not conceive of themselves in those terms. The generic boundary categories worked well as a descriptive framework for classifying the elements in the report and pulling into a gestalt one view of the theory embedded therein.

This view of the panel report, then, suggests that Congress and the executive branch are a strong “center” in U.S. federal policy outcomes, with interlocking roles throughout the policy process. Power and control are far and away the dominant aims and behaviors at their institutional boundaries. Failure on either side has a high national cost. Lack of attention and ignorance characterize the boundaries between the institutions and the broader context. As the panel believed that broader context to be in a period of fundamental and rapid shifts, they regarded the latter as a serious constraint and called for new institutional arrangements, new concepts, and new linkage devices that would permit the federal government to keep up with and to perceive and act on broader forces and problems that are now missed.

The boundary spanning dynamics portrayed in Table 36 paint a vivid portrait of powerful institutional boundaries as being “the razor’s edge on which hang suspended the modern issues of war and peace.” There, we see that, according to the NAPA panel, interlocking roles are not easily created, or certainly not characterized as easily cooperative. Congressional-executive interlocking roles in the policy process (in the cases the panel studied, and in their experience) are characterized by role blurring, role conflict, role



TABLE 36.

REPERCEIVING BEYOND DISTRUST USING THE BOUNDARY ANATOMY: PART I: BOUNDARY FOUNDATIONS

BOUNDARY THEORY: BALANCE OF POWER	BOUNDARY CONTEXT	BOUNDARY GOALS / VALUES / SIGNIFICANCE / FUNCTIONS	TYPES OF BOUNDARIES
<p>1) Congress-Executive relationship a powerful determinant of federal policy outcomes</p> <p>Policy and program failures rooted in performance of both branches</p>	<p>1) Social and economic change -acceleration in rate of change -fundamental shifts in international order -severe fiscal imbalance -public distrust of government -public dependence on government services</p>	<p>1) Control--congressional control over the Executive Branch</p> <p>2) Autonomy and independence--respect and preserve constitutional boundaries</p> <p>3) Adaptation--need new models of organization and management practices; adapt behavior and institutions to enormous and fast changing problems</p>	<p>1) Institutional--relationship between Congress and Executive Branch during policy implementation and program management</p> <p>2) Areal / Land--geographical boundaries</p>
<p>2) Continuing struggle for control: power against power</p> <p>Madisonian checks and balances: separate institutional branches with system of checks and balances</p>	<p>2) Governmental change -divided party government -shifts in responsibility for government action -growth of novel instruments -changes in how people get information about government -proliferation of congressional subcommittees -changed administrative role of judicial branch -paradoxes of govt performance</p>	<p>4) Learning &amp; flexibility--nothing is solved for very long</p> <p>5) Realistic, not idealized sharing of responsibility</p>	<p>3) Contextual--boundaries between Congress and Executive Branch and their external environments</p> <p>4) Sectoral--boundaries of public sector</p>
<p>3) Interlocking roles in implementation of national policy and management of government programs</p> <p>Each branch must have appropriate capacity to engage the other</p>	<p>3) Fundamental and ongoing shifts; familiar labels no longer apply</p>	<p>6) Focus on the citizen as customer, placing accountability at the service delivery level and emphasizing performance and results rather than resource utilization</p>	<p>5) Resource--cost boundaries</p>
<p>4) New devices are needed to increase understanding, communication, competition, and vigorous partisan debate between branches - for effective policy making, program results, and accountable decision making</p>	<p>4) Need new institutional arrangements that will permit federal government to keep up with accelerating rate of change at home and in the world</p>	<p>7) Legislators accept principle of executive accountability; Administrators accept principle of congressional oversight</p> <p>8) Policy should drive machinery of government, not the reverse</p>	

TABLE 36 (continued).

PART II: BOUNDARY SPANNING DYNAMICS

BOUNDARY ROLES, RESPONSIBILITIES & PROPERTIES	BOUNDARY SPANNING PROCESSES (behavior)		BOUNDARY PROBLEMS	BOUNDARY SPANNING INFRASTRUCTURE
<p>1) <b>Boundary Roles</b></p> <ul style="list-style-type: none"> <li>- Interlocking roles in policy implementation</li> <li>- Blurring roles: Congress' roles of lawmaking, oversight, and representation so blurred can't distinguish them in practice</li> <li>- Role conflict: tension among roles Congress can play to exercise oversight</li> <li>- Role ambiguity: appropriate roles for joint participation in policy implementation while preserving constitutional principles</li> <li>- Losing a role or compromising a role</li> <li>- Role knowledge</li> </ul> <p>2) <b>Properties of Boundaries</b></p> <ul style="list-style-type: none"> <li>- Overall: Blurred responsibility built in to prevent tyranny, protect liberty, promote good government; indistinct boundaries built in</li> <li>- For specific cases: can identify a point beyond which involvement of legislators becomes interference</li> <li>- Too much blurring: can produce too obscure accountability for performance</li> <li>- Trust</li> </ul>	<p>1) <b>Congressional oversight</b></p> <p>2) <b>Policy development and program implementation</b></p> <p>3) <b>Boundary making</b></p> <ul style="list-style-type: none"> <li>-defining proper boundaries</li> <li>-negotiating boundaries</li> <li>-legislators and administrators should settle boundaries of their responsibilities on a case-by-case basis through bargaining, compromise, ground rules</li> </ul> <p>4) <b>Boundary conflict, disputes</b></p> <ul style="list-style-type: none"> <li>-ever more detailed congressional managerial controls on federal programs</li> <li>-ground rules that will bridge differences and encourage constructive conflict and cooperation</li> <li>-outright confrontations and too competitive a relationship</li> </ul> <p>5) <b>Boundary change</b></p> <ul style="list-style-type: none"> <li>-systemic change unlikely as a result of changes in either branch alone</li> </ul>	<p>6) <b>Boundary control tools, mechanisms</b></p> <ul style="list-style-type: none"> <li>-detailed elaborate rules instead of demanding particular favors</li> <li>-program direction tools</li> <li>-intelligence tools</li> <li>-cost driven tools</li> </ul> <p>7) <b>Learning, information, and boundaries</b></p> <ul style="list-style-type: none"> <li>-staff-to-staff working groups to convey information, innovation, learning</li> <li>-information as key</li> </ul> <p>8) <b>Leadership and boundary management</b></p> <ul style="list-style-type: none"> <li>- Beyond distrust</li> <li>- Interlocking collaboration and conflict</li> <li>- Shared power</li> <li>- Struggle for control</li> </ul>	<p>1) Can't perceive broad, cross-cutting policy</p> <ul style="list-style-type: none"> <li>-both sides have a narrow focus</li> </ul> <p>2) No one responsible in a marketplace of competing demands ... no one takes responsibility for big problems</p> <p>3) Loss of trust unless information enables each branch to make reliable assessments on its own terms</p> <p>4) Absence of linkages for interlocking roles</p> <p>5) Failures on both sides</p> <p>6) Size of public sector</p> <p>7) Misplaced emphasis on boundaries: how well are the people being served by their government?</p> <p>8) Uneven, unreliable, unaccountable performance</p>	<p>1) Each branch must support organizational devices that respond to contemporary problems and bridge their institutional boundaries, while preserving fundamental prerogatives of constitutionally separated institutions</p> <p>2) Joint Legislative-Executive Conference needed to: play convenor role; focus on issues of substance, process, procedure between the branches; provide continuing attention to legislative-executive relations</p> <p>3) Staff-to-staff working groups ... people linking processes to channel ideas and information across boundaries</p> <p>4) Incentives and structures to facilitate policy development and planning with a wider view</p> <p>5) Jurisdictions to better enable identifying and addressing broad policy</p>

ambiguity, and absence of adequate role knowledge on the part of the players (findings quite compatible with both boundary literature surveys). However, the panel also believed that the case studies showed an inter-institutional pattern of "losing a role" or "compromising a role," when they noted that: "the Executive Branch effectively hands over to Congress its managerial role when it fails in its job of administration," and "when Congress intervenes excessively in administration, it risks its capacity to exercise appropriate, systematic, and uncompromised oversight."

Policy development, program implementation, and congressional oversight can now be regarded as boundary spanning processes, having to be enacted and designed in the separation of powers and system of checks and balances (also noted earlier with reference to mental health and justice by Steadman, 1992). Congressional micromanagement is recast as a boundary conflict, but with the complement that leadership, boundary management, and a continuing process of negotiation is called for if legislators and administrators are to settle the boundaries of their responsibilities on a case-by-case basis. To do that, the NAPA panel's boundary theory included principles to guide building a boundary spanning infrastructure between the branches (e.g., staff-to-staff working groups, and a Joint Legislative-Executive Conference which could be NAPA rather than a newly created institution). Finally, the serious boundary problems (in addition to problems of substantive policy, which are not included here) which the panel believed their "theory" would address included (1) the loss of trust on both sides, (2) the inability to perceive and address broad, cross-cutting policy and broad forces of change; and (3) the undue emphasis on power and control between the branches at the expense of attention to how well the people are being served.

### Stennis Congressional Fellows in the Boundary Anatomy

As described earlier in Chapter 1, boundary has become a core concept in designing the second year of the Stennis Congressional Fellows program. In that process of design, however, so many other elements have been at play that it has been difficult to articulate, in a fully coherent way, what boundary might mean with respect to the program.

When boundary is the unit of design, the Stennis Fellows program can be discussed at several levels: (1) overall, using the blueprint outlining the program conceptual framework and illustrative issues Stennis Fellows have raised; (2) for particular program elements, such as the composition of each class or a concept and practice such as boundary leadership; or (3) at the level of specific issues Fellows raise or for small groups or individual Fellows. In this section, the boundary anatomy will be used as a skeleton within which to redescribe the overall Stennis Congressional Fellows program. Doing that is an extraordinarily different experience from redescribing *Beyond Distrust*. For example, the dominant boundary theory metaphor underlying the Stennis Fellows program is learning rather than the power and control characterizing the congressional-executive relationship (though surely power relationships are at work amongst House and Senate senior congressional staff, even in an experience designed for learning). In addition, the Fellows program is much younger (but a year old), is emergent, and has very little if any substantive tradition on which to draw respecting leadership development for congressional staff, much less a staff group of an intendedly bicameral, bipartisan composition. Applying the generic boundary framework is thus one useful overlay to raise questions, to understand what is going on, and to point to future work. Much of the experience of the Fellows program is in the conversations and networking that occurs during the sessions, the sum total

of which took place in less than a year. *Beyond Distrust*, by contrast, is codified in densely researched texts that describe several years of intensive investigations conducted by more than 25 people. Applying the boundary framework to that report thus had a great deal more certainty attached to it. Nevertheless, the *Beyond Distrust* report is also describing a learning process (albeit for a panel), and that is certainly a feature common to both.

Table 37 shows the initial results of applying the boundary anatomy to the Stennis Fellows program. It suggests that the Fellows program seeks the creation of a staff-to-staff (boundary spanning) learning group or learning system, focused on discovering questions to ask "at the boundaries" and in the process to be discovering and rethinking the nature of their staff leadership role. The assumption is that staff are not able to perceive deeper changes occurring in the broad context, that the way they are perceiving and addressing immediate issues is probably out of sync, and that a mechanism such as a learning infrastructure at the interface between the branches (but outside the formal institutional structure) will help to remedy this.

The dominant value with respect to boundaries that the program seeks to reinforce and to inculcate is a strong commitment to bipartisan, bicameral, multi-office congressional public service. Another assumption is that significant learning occurs at the boundaries (e.g., between party, chamber, role, context), hence the composition of each cohort. Moreover, the expectation is that the learning will be cumulative, that the program will include mechanisms for transferring learning not only among each cohort but also across the boundaries between the program and their day-to-day work on Capitol Hill and across the boundaries between classes.

TABLE 37

REPERCEIVING STENNIS CONGRESSIONAL FELLOWS USING THE BOUNDARY ANATOMY: PART I: BOUNDARY FOUNDATIONS

BOUNDARY THEORY: LEARNING	BOUNDARY CONTEXT	BOUNDARY GOALS / VALUES / SIGNIFICANCE / FUNCTIONS	TYPES OF BOUNDARIES
1) Bipartisan, bicameral staff-to-staff learning group on Capitol Hill	1) Senior staff must understand and be able to deal with a quickening pace of change and ever increasing complexity in national and global affairs	1) Strong commitment to bipartisan, bicameral congressional public service	1) Institutional--House and Senate
2) Discovering questions to ask in areas of congressional public service leadership, governance, and legislative process -- where questions and answers are unclear	2) Those changes are overwhelming established methods of organizing and governing	2) Dedication to maintaining the highest standard of a representative national legislature in our system of government	2) Party--Republican, Democrat, independent
	3) Deeper changes are very difficult to perceive because they cut across organizational boundaries and their time horizon exceeds that of most planning	3) Recognition and honor to those who demonstrate outstanding leadership and commitment to such congressional public service	3) Role -- personal staff, committee staff, Member to staff
	4) Far more fluid and dynamic	4) Principle of legacy: work of each class is a legacy on which future classes can build	4) Gender and ethnicity
			5) Issue boundaries

TABLE 37 (continued).  
PART II: BOUNDARY SPANNING DYNAMICS

BOUNDARY ROLES, RESPONSIBILITIES & PROPERTIES	BOUNDARY PROBLEMS		BOUNDARY SPANNING PROCESSES	BOUNDARY SPANNING INFRASTRUCTURE
<p>1) <b>Boundary Roles</b></p> <ul style="list-style-type: none"> <li>- leadership role to carry out goals and agendas of Members of Congress and the institution they serve</li> <li>- rethinking the role of senior congressional staff -- in an office, for institution</li> </ul> <p>2) <b>Properties of Boundaries</b></p> <ul style="list-style-type: none"> <li>- slash and cut</li> <li>- short term orientation</li> <li>- ethical issues</li> </ul>	<p>1) <b>External environment / context</b> -whether the context is fundamentally different</p> <p>2) <b>Questions about issues internal to Congress</b> -appreciation of institution -rethinking role of senior staff -how to manage changing relationships between new majority and minority -nuts and bolts questions (sophisticated transition skills, running a hearing) -change -ethics -leadership</p>	<p>3) <b>Questions that span internal and external boundaries</b> -truth-telling -downsizing -gap between huge change and translating it -difficulty of fundamental thought in rapidly changing environment -conflict between ideology and listening to the people -campaign finance reform -public perception and confidence in Congress as an institution</p>	<p>1) Creating a learning infrastructure (participatory action research; compressed action learning; scenarios, domain development, transorganization development etc.</p> <p>2) Identifying and addressing issues "at the boundaries"</p> <p>3) Identifying and developing skills to address those issues</p> <p>4) Developing a framework in which to examine innovations underway by others and translate those to Congress</p> <p>5) Developing a concept and practice for boundary leadership</p> <p>6) Idea for a bipartisan, bicameral congressional staff advisory council to be part of the standing leadership and management structure of Congress (also would be part of infrastructure)</p>	<p>1) Forum in which Stennis Fellows can identify issues they want to address and then engage in strategic dialogue and constructive debate to re-perceive those issues in the context of deeper changes underway</p> <p>2) Fellows meet with outside authorities and organize sessions among themselves</p> <p>3) Agenda setting and synthesis sessions</p> <p>4) Each class produces a summary of its deliberations -- of its cumulative learning</p>

It is still a struggle to articulate in depth the nature of the boundary role that the program cultivates. While in the program, staff have the opportunity to experience what they share and how they differ in working on the Hill. Through that process, a loose notion can emerge respecting an image of an inter-institutional role for senior congressional staff. It has to be said that it is not clear that the program creates a sense of interlocking role in the vivid way that Congress and the executive branch are noted to produce in conducting the policy process. Perhaps what happens in the Stennis program is an opportunity to experiment, to explore in a learning situation, what appropriate interlocking roles might be, even if they are created simply in the learning situation, amongst senior congressional staff from both chambers and parties. Certainly one interlocking role we are suggesting is that they look outside the bounds of their immediate situation and together examine whether and how the broad context is fundamentally different, what leadership and management innovations are underway elsewhere, and how that translates to the congressional setting. Another way that we cultivate a shared appreciation in the group is to ask them to set their own learning agenda, here couched as boundary problems in the sense that the issues they have identified to this point fall either within Congress, within the external environment, or span those ever arbitrary boundaries.

Processes the designers use to create a learning infrastructure at the bipartisan, bicameral boundaries each group presents include participatory action research and working with the Fellows to facilitate their developing a framework in which to examine innovations underway by others and translate those to Congress. Other learning processes appropriate to this boundary spanning structure are scenario planning (van der Heijden, 1995), compressed action learning (Tichey, 1993), domain development (McCann,



1980), and transorganization development (Cummings, 1984). Learning processes which enable the Fellows to span all the boundaries they confront as a group are to engage in conversation and constructive debate respecting issues they and others identify, and to produce a summary of deliberations describing their cumulative learning. In the latter respect, they are very much like a project panel of the National Academy of Public Administration or the National Academy of Sciences. For example, the inaugural class of Stennis Fellows developed the idea that a mechanism was needed in Congress that would better connect congressional staff to the standing leadership and management structure of Congress. One theory underlying their idea, of course, is that such a device is intended to span the boundaries that currently divide and separate staff from Members and prevent engaging in a mutual, continuing process of improving congressional management. The presumption (and it may be wrong) is that doing all of this itself produces an experience of what might be called boundary spanning leadership, though it assuredly is under conditions where political decisions need not be made. The latter implies that whatever boundary spanning leadership skills are developed during the Fellowship may or may not translate into the political arena.

### **Beyond Distrust and Stennis Fellows in the Cycle of Boundary Spanning Behavior**

The above efforts to redescribe the two interventions using the boundary anatomy have remained fairly close to the textual material, but have been very helpful in articulating a fuller portrait of the boundary dimensions (and gaps) in each. The third illustration of the reinterpretation that is possible using the outcomes of the two literature surveys is more speculative, analytic,

and integrative. In this section, I use the hypothesized cycle of boundary spanning behavior to situate both interventions simultaneously on the same cognitive map, and thereby pose a backdrop for further reinterpretations as well as more effective practice.

Table 38 plots the following elements onto the boundary spanning cycle: (1) the five styles of congressional co-management, (2) the NAPA *Beyond Distrust* report as a whole, (3) two recommendations from the NAPA report (i.e., the recommendation for a Joint Legislative-Executive Conference and the recommendation for staff-to-staff working groups), and (4) the Stennis Congressional Fellows program as a whole. While any one of these might well be the subject of a single plotting (i.e., getting its own map), the desire here is to imagine what they look like together. The exercise is suggestive.

The five styles of congressional co-management can probably be usefully reconceived as boundary spanning leadership styles or interlocking leadership roles created by and between Congress and the executive branch during the policy process. They do not reflect the full range of possible or appropriate styles, but, as a set, and in the congressional-executive arena, those identified do occur and do so simultaneously, though likely at different points in time in the policy process, and enacted at various points by any one or more of several actors (committee, subcommittee, Member, staffer, executive branch politician or career official).

*Cell A.* Starting with the stage depicted in cell A of Table 38, two of the leadership (congressional co-management) styles (superintendent, passive observer) seem more in the genre of traditional boundary spanning, and assume a fairly fixed oversight boundary between Congress and the executive. Congress “watches over” policy implementation (i.e., watches over the boundary between Congress making policy and the executive branch carrying

TABLE 38

BEYOND DISTRUST AND STENNIS FELLOWS IN THE BOUNDARY SPANNING CYCLE

<i>Degree of Contextual Interconnectedness / Turbulence</i>	<i>Nature of Boundary Spanning</i>	
	<b>More Spatial Boundary Spanning</b>	<b>More Temporal Boundary Spanning</b>
<b>Less Turbulent</b>	<p><u>Ho:</u> Styles of superintendent, passive observer</p> <p>(A)</p>	<p><u>Ho:</u> Styles of consultation, combative opponent; Recommendation for staff-to-staff working groups</p> <p>(B)</p>
<b>More Turbulent</b>	<p><u>Ho:</u> Strategic leader style</p> <p>(D)</p>	<p><u>Ho:</u> <i>Beyond Distrust</i> report; recommendation for Joint Legislative-Executive Conference; Stennis Congressional Fellows Program</p> <p>(C)</p>

Ho=Hypothesized plotting

it out), either passively or more actively. This is spatialized boundary spanning (spatialized oversight, pretty clear lines between what is inside one branch versus the other) of the type associated with less than turbulent contexts.

*Cell B.* Moving now to another stage in the boundary spanning cycle, two other of the leadership (congressional co-management) styles (consultation, combative opponent) seem a more temporal form of oversight (boundary spanning), less focused on what is in or outside, and more concerned with either comity and give-and-take or with knocking the walls down in a more battle-like way. The combative opponent style is reminiscent of the boundaryless slogan to “break down the walls” (in this case, break down the walls for who gets credit for savings, producing a generally unhealthy state

of affairs). The consultative style is more along the lines of that envisioned in the staff-to-staff working group model or what Russ Linden characterized as conditions of seamlessness of administration and service delivery (or a more healthy approach to making the rigid boundaries of cell A more flexible). Neither the combative opponent nor the consultative styles, nor for that matter certain of the possible staff-to-staff working groups would be working at the level of values (though the latter work should be occurring simultaneously with respect to the total system, whether agency, policy, nation-state, etc.). The behavior is pretty much focused on interactions and connections within current strategies, operations, and tactics.

*Cell C.* None of the five congressional-executive boundary spanning leadership styles seems to operate within the cell or stage of the boundary spanning cycle concerned with the creation of new meaning at the level of values (cell C), with moving beyond spatialized boundaries toward more temporal connections between the branches in a continuing way. Instead, what seems to plot at this stage (within the set of the two public administration cases) is learning-based mechanisms that could operate at the level of creating new values, raising new interpretations, new questions, new ways of perceiving. Though many of its recommendations are assuredly conceived more in the traditional (cell A) stage of the boundary spanning cycle, the mere conduct and presentation of the NAPA *Beyond Distrust* report is an example here—but only if it had been conducted differently (see Halley, 1994). Another example is the Stennis Congressional Fellows program which could, for congressional staff, operate to create shared mental maps and images (new values, new perceptions) among those participating. The Joint Legislative-Executive conference the NAPA panel recommended is a third example of an intervention that could operate in the learning system, value-

creation, meaning-making mode. It could also, were it ever to be created, end up functioning in any of the other stages. NAPA could also, within the bounds of its congressional charter, conceive of itself as a joint legislative-executive conference, using some of the theoretical notions here. The question raised with these examples is more concerned with how any entity at this stage, or in this cell, would conceive of its role. The thought presented in Table 38 is that the major identity would be that of learning (or social transformation) at the level of values, though that does not preclude simultaneous work at the level of ground rules (in more spatial boundary spanning in less than or fully turbulent contexts).

*Cell D.* Finally, the strategic leader style of congressional-executive boundary spanning seems to be of a type envisioned as appropriate at the stage of more spatial behavior in more turbulent conditions. The thought here is that this style is concerned with creating value deep ("in the midst of action") within the full political arena, and that such behavior will place a great deal more emphasis on drawing and redrawing of boundaries, surely guided, in part, by the values created in cell C, as well as by ones already at play (e.g., redesigning social systems in constitutional, policy, or jurisdictional arenas). For example, in the Goldwater-Nichols Reorganization of the Defense Department case study (which was the prototype suggestive of the strategic leadership style), the aim was a fundamental reform in defense organization that simultaneously made both sides stronger players: Congress stronger in defense organization and process issues, and the Department of Defense stronger in management effectiveness (an action which might also be a translation of values generated under conditions of more temporal boundary spanning such as found in producing the *Beyond Distrust* report or conducting the Stennis Fellows program).

In sum, the hypothesized cycle of boundary spanning behavior, involving simultaneous behavior in more and less turbulent environments and in more and less spatial-temporal ways, has potential heuristic value in integrating presently disparate elements in my experience, and in suggesting gaps and raising questions. The styles of "congressional co-management" were originally conceived with the ideas of temporality and simultaneity as that gestalt was vivid in the ten case studies which gave rise to them. Until now, however, it has been rather a mystery as to how that might begin to be expressed.

One other immediate potential use comes to mind with respect to Table 38. It might be a diagnostic device in a learning infrastructure-executive development experience such as that conceived in the Stennis Congressional Fellows program, and in particular with respect to the still rather formative nature of the notion of boundary (spanning) leadership. The idea could be applied at several levels. For example, as a group or individually, the Stennis Fellows could be plotted as to their knowledge and skills and preferences with respect to enacting leadership appropriate to the different stages of the boundary spanning cycle. As a learning intervention, the progress of the program itself, over time, could be plotted as to how it (Stennis Center) conceives its own role in relationship to the Fellows and to Congress as an institution. There might also be discussions as to what styles, values, behaviors are missing and need to be developed.

### **10.3 HORIZONS FOR FUTURE LEARNING**

With some reluctance, now seems an appropriate point to conclude the learning process that has been the essence of this dissertation. The questions set forth have been addressed, with principal emphasis given to launching the

fundamental work required to begin to develop a formal concept of boundary and to test the emerging theory against two public administration cases. As this chapter marks both an end of one learning process and a beginning of its continuation, this last section acknowledges some of the strengths and limitations of the inquiry, and in so doing, suggests some additional implications and extensions. The dominant theoretical issues emerging from the two experiences (outlined in Chapter 1) concerning the relationship of a formal concept of boundary to notions of context, leadership, and learning, as well as to the field (or discipline) of public administration will recur as the theory-practice points of departure for my future work and that of others.

### **Boundary**

Boundary, understood in the rich complexity that has been unveiled, is indeed a unit of analysis to get at some of the central problems in the two interventions that stimulated this inquiry. Though public administration cases stimulated "seeing" boundary, it is clear the formal concept cuts across many substantive areas of theory and practice. Indeed, future work might probe the boundary concept more systematically using the distinction between formal and substantive theory. The formal concept of boundary takes its greatest significance when it is attached to something (like land, ocean, nation-state, information, organization). One of the most fruitful potential applications of this work would thus be to relate it to substantive problems with inherent boundary issues (e.g., that of intergenerational justice or intergenerational equity, third-party government, regional governance, or public sector reform). The richness of the boundary concept, however, is also its limitation in that it is now difficult to see or experience anything without considering the pattern that unfolds when questions are asked with respect to

relevant boundaries. Boundary and its derivatives are only one unit of analysis. There is no argument here that they do or should dominate any endeavor.

Boundary may be too formal a concept to be of immediate use to practitioners, implying that a continuing process of translation and application is needed to take this work to the next step. Boundary derivatives, such as boundary spanning, do seem to offer a potential formal theoretical language to underpin the development of new interlocking roles and new mechanisms to conduct public management at key interfaces of the central government illustrated by the two public administration cases. It remains to be seen how useful these concepts are to practitioners, though it can be argued that practitioners stimulated this analyst "seeing" boundary as a core concept. The various frameworks generated in the course of this inquiry suggest and in many ways affirm those who argue that boundary may be one of those transitional concepts we need to develop as a guide to governing in an increasingly incoherent world.

One highly intriguing characteristic of boundary, especially boundary spanning, is that it is a unit of analysis on its own terms, of a logical type that is quite different from units such as individual, group, or organization, or units such as policy or program or even policy tools. That logical type is that boundary is itself a cross-level or multi-level unit at the level where one describes meta-concepts that work across the familiar hierarchical units (of individual, group, organization, for example). Boundary, as a unit of analysis, is a logical type similar to Cummings' (1984) logical type of transorganization systems. Future work from this vantage might draw upon the "unit of analysis" and "multilevel analysis" literature that has been developed in educational research, psychology, communication, philosophy of science, and



sociology. Caldwell (1994), for example, referring to the doctrine of multilevel analysis proposed by Cacioppo and Bernston (1992), says a concept is needed in social neuroscience that "would integrate information across multiple levels of data and explanation," and then he goes on to suggest that a more unifying and productive concept for psychology will be that of simultaneity. Pan and McLeod (1991) speaking for mass communication, challenge us to think in multiple ways about units of analysis, and lament the fact that mass communication research lacks any semblance of cross-level integration, resulting in numerous theoretical islands. They are searching for cross-level auxiliary theories that connect micro and macro processes. Nass and Reeves (1991) point out that levels of analysis (from cells and neurons to groups and societies) are rarely crossed by biologists, psychologists, and sociologists, whereas communication scholars are literally "all over the place," with the independent variable at one level, the dependent at another, and the intervening at still another in any one study. Yet they worry that:

Attempts to make communication studies conform with the levels framework have led to inappropriate questions, limited measurements, and missed opportunities. Attempts to mix levels, conversely, have resulted in confused theories and measurement strategies that give only the illusion of inclusiveness (p.241).

One caveat Nass and Reeves point to is that whatever the focal unit of analysis, it will have a strong influence on perception of admissible questions, objects, theories, and methods. As Salamon (1989) argued that a new unit of analysis for public administration be the tools of government action, it may be the case that boundary will be a formal unit that would open the doors for public administration to speak fruitfully with other disciplines in the ongoing effort to design more effective public management at key interfaces of the national (and other levels of) government. The point, it seems, is not to have

a single unit of analysis, but several; to distinguish whether they are formal, substantive, or both; and to clarify whether they are single or multi-level with respect to a particular inquiry.

### Context

In Chapter 2, the changing context of governance was identified as a central, but not well developed theme in the *Beyond Distrust* report, and as a rationale and point of inquiry (though not strong on the latter) for the design and conduct of the Stennis Congressional Fellows program. The point was made that both cases illustrated that we, in public administration, seldom get much past the assertion that context matters.

In pursuing formal development of a boundary concept, from the inter- and intra-disciplinary vantages, there does seem to be a body of received wisdom indicating that context is profound and defining when it comes to the role and function of boundaries (whether those boundaries are land boundaries or perceptual boundaries of cognitive perspective). It has to be said that "good" theories of the changing context of governance, relevant to the conditions perceived or not today, are still hard to come by. The Emery and Trist framework was certainly generative in the present inquiry and did provide a way to associate some otherwise fragmented streams of thought and action. But it is obviously a fairly subjective judgment call as to what makes one environment more or less turbulent than another, or, for that matter, where and whether one even thinks in terms that make a distinction between self and environment, organization and environment. One promising theme underlining the relevance and future utility of the present work is observations of the kind that simply say the core problem we are experiencing today is extreme administrative and political complexity in overseeing so

many conflicting and often highly contested boundaries (sectoral, ideological, federal, and so on). The latter gets away from the notion of turbulence as a focal unit and is really more congruent with the organizational behavior descriptions already developed in this inquiry (Table 33 and 34) with the Emery and Trist typology. A second alternative is taking as focal the extent to which shared interpretations are continually constructed and reconstructed through learning processes that generate new ways of perceiving various contexts (i.e., a more temporal approach to a context where spatial distinctions are breaking down).

### **Leadership**

Issues of theory and practice were also raised in Chapter 2 with respect to leadership. There, a working premise was put forth that the traditional language of leadership is inadequate to describe what is required to lead across the boundaries that separate Congress and the Executive Branch or staff in the House of Representatives from those in the U.S. Senate. The idea was that a new concept, such as boundary leadership, should be developed to provide a better understanding of how to create and manage institutions and processes that preserve, yet span, constitutional boundaries.

By definition, the fundamental research conducted in this dissertation did not focus directly on the substantive question of a theory of boundary leadership for senior congressional staff or congressional-executive staff. Had that been the focal point, the massive literature on leadership would have been examined—for example, transactional versus transformational leadership (Burns, 1978; Stupak, 1987); leadership without authority (Heifetz, 1994); or middle-up-down management (Nonaka, 1994). The important discovery was that, within the boundary literature, there is indeed a body of

work addressing the leadership role and the tasks of administration and management, at a wide variety of boundaries.

A second point concerns the relationship between boundary leadership, management, and administration and extant notions of horizontal administration. In pursuing this inquiry using the unit of boundary, some concern was expressed that boundary leadership may be nothing more than the horizontal leadership notion recommended by Cleveland (1972), Sherwood (1976), Stupak (1987) and others working extensively with and as public executives. For example, received wisdom on the boundary role for public administrators takes as focal the executive role within some organizational setting, and places a heavy emphasis on preserving familiar boundaries (the hierarchy) within that organization. To this, the response is that the present inquiry has produced a fuller concept to underpin notions of horizontal leadership, revealing more a cycle of paradoxical but simultaneously necessary behaviors that likely cannot be lodged within an individual executive but have to be regarded more as constituting initial design parameters for horizontal leadership systems (e.g., Sherwood, 1976).

Another valuable contribution was that a notion such as boundary leadership is now situated within several conceptual schemes that focus explicitly on boundary foundations and boundary dynamics, as well as on boundary spanning, boundaryless, and the degree of turbulence in the governing context. This is a much fuller point of departure from which to pursue relevant streams in the substantive theories and practices of leadership.

## **Learning**

The presumption, in Chapter 2, that learning and adaptation can occur at key boundaries was a theme in both the inter- and intra-disciplinary surveys, though much moreso in the organizational literature. In the boundary anatomies, learning appeared as a sub-category of boundary dynamics, falling within a broader category titled boundary processes or boundary spanning processes. In that frame of reference, learning at boundaries was also associated with power and conflict, boundary disputes, boundary change, boundary making, and boundary administration and management, as well as a wide range of types of boundaries and relevant boundary properties. Future theory and practice might explore what learning norms and processes are appropriate and relevant at different boundary types and under what conditions boundary rigidity versus boundary flexibility are desirable.

Some leads in that direction are visible in the cycle of boundary spanning behavior which on the one hand places learning as a temporal form of boundary spanning that can occur as "seamlessness" or reengineering types of behaviors or as value or perception creating processes as in Rosell (1995). On the other hand, the cycle of boundary spanning behavior also raises the question of what forms of learning are appropriate throughout the cycle, to cover both rational-analytic boundary spanning as well as learning under conditions of temporal boundary spanning. Initial thoughts along those lines have been raised just above in the process of the more explicit reinterpretations of the two public administration cases. Viewed as a gestalt, there is much in the hypothesized cycle of boundary spanning behavior that implies the need to deal with continuous change and contradiction. In turn, that implies the need for a pervasive capacity to learn, irrespective of what particular boundary spanning orientation is taken. This suggests that learning

may be an area worthy of much more exploration in developing the cycle of boundary spanning behavior.

Finally, another point relevant to learning is methodological with respect to the present inquiry. To develop the descriptive frameworks (i.e., the boundary anatomies), the analysis was conducted principally at the level of titles of books and journal articles, though that was offset by scanning selected works and going in much greater depth in illustrative samples of them. Future research should continue to develop those frameworks working more at the level of content within the titles, as well as bringing in more titles that cover boundary-related topics (e.g., horizons, frontiers, borders, peripheries, centers).

#### **The Power at Limits in Public Administration**

Both *Beyond Distrust* and the Stennis Congressional Fellows program raised important questions about the limits of traditional public administration theory, with its obsession on the agency or program as the unit of analysis, and its resistance to including Congress and legislatures, not to mention the private sector and third-party government within its main purview. Each intervention pushed the limits of traditional theory, calling forth a need for public administration to develop approaches that work across the traditional boundaries in the field. At the outset of the dissertation, these limits of traditional public administration were regarded with some dismay. Now, the recognition is that the power, beauty, and potential of public administration reside at the very limits so often carved as constituting the field, or at least the limits posed by the two experiences that stimulated my interest in the issue of boundaries. For those limits are boundaries, and it is at the boundaries where defining moments and interaction processes are thought to occur.

A few discoveries have been identified during this inquiry or can be abstracted as implications with respect to these assertions. First, public administration itself might be regarded as being in a state of numerous and conflicting "substantive" theories, all focused on the immediate content of public management, or public policy or public administration. In practice, for example, the issues of defining clientele, of implementation of programs in an intergovernmental context, of devices to achieve joint action across disparate programs and/or agencies, of the role of relations among local governments (e.g., joint powers agreements, contracting, mutual assistance agreements) all include implicit, "substantive" and emergent, "formal" boundary issues. There is "substantive" writing about all of these, some at a reasonable level of theoretical sophistication (e.g., on intergovernmental program implementation), but relatively "formal" theory regarding the boundary issues is not found at the organizational level in public administration. Public administration may well benefit from work conducted at more fundamental levels with more formal units such as boundary.

Second, because public administration is so eclectic in its "substantive" scope, perhaps public administration ought to conceive of itself, more self-consciously (e.g., in its institutions such as the National Academy of Public Administration, or in its university-based programs) as a boundary spanning discipline. That perspective would define public administration as a field or discipline that develops the formal language and raises the questions that enable many disciplines to communicate across their differences, and to share what they bring to bear on the governance and administrative problems facing our society(ies).

If a main problem we are experiencing today is indeed, fundamentally, rapidly shifting, fluid, highly complex and conflicting boundaries, and if that

trend is associated with the incoherence, information overload and uncertainty described by so many, then it certainly seems that a focus on formal boundary work, with all its attendant derivatives outlined here, is a step towards the kind of theory-practice linkage that will be needed to shape and confront the rapid changes underway.

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## **APPENDIXES**

APPENDIX A.

NUMBER OF ENTRIES FOR SUBJECT CODES APPEARING IN ONLINE DATABASES: SEARCH COMMAND—SUBJECT=BOUNDARY

<u>SUBJECT CODES</u>	<u>Total</u> <u>DBases*</u>	<u>ONLINE DATABASES</u>														
		<u>1</u> <u>(gen)</u>	<u>2</u> <u>(mul)</u>	<u>3</u> <u>(mul)</u>	<u>4</u> <u>(ppr)</u>	<u>5</u> <u>(bkr)</u>	<u>6</u> <u>(ess)</u>	<u>7</u> <u>(bio)</u>	<u>8</u> <u>(ABI)</u>	<u>9</u> <u>(Edu)</u>	<u>10</u> <u>(eric)</u>	<u>11</u> <u>(scie)</u>	<u>12</u> <u>(med)</u>	<u>13</u> <u>(legl)</u>	<u>14</u> <u>(AUL)</u>	<u>15</u> <u>(GWL)</u>
Boundary commission	2				28			1								
Boundary conditions	1	1														
Boundary cretacious tertiary	1	1														
Boundary disputes	5	30		1		7			4						5	
Boundary element analysis, method or methods	3	59				47						388				
Boundary healthcare products corporation	1				3											
Boundary integral method	1										74					
Boundary layer and boundary layer meterology	5	163		218		19					1221					1
Boundary lines	3	1													1	1
Boundary lubrication	2			3							83					
Boundary mountains	1				1											
Boundary patrols (border patrols)	2	1													1	
Boundary scan methods and testing	2	3									69					
Boundary spanning activity	1			17												

\*Since it is certainly possible some entries are double counted, that is, some entries (titles) may appear in several databases, the total number of databases in which a subject category appears are identified in this column rather than summing the total number of entries across the databases. Also, some entries appear more than once within a database if the entry is held at more than one library location. Conducting an analysis to identify and eliminate duplicate entries of titles across the databases was well beyond the parameters of this study.

APPENDIX A (continued).

ONLINE DATABASES

<u>SUBJECT CODES</u>	<u>Total</u> <u>Entries</u>	<u>1</u> <u>(gen)</u>	<u>2</u> <u>(mul)</u>	<u>3</u> <u>(mul)</u>	<u>4</u> <u>(ppr)</u>	<u>5</u> <u>(bkr)</u>	<u>6</u> <u>(ess)</u>	<u>7</u> <u>(bio)</u>	<u>8</u> <u>(ABJ)</u>	<u>9</u> <u>(Edu)</u>	<u>10</u> <u>(eric)</u>	<u>11</u> <u>(scie)</u>	<u>12</u> <u>(med)</u>	<u>13</u> <u>(legl)</u>	<u>14</u> <u>(AUL)</u>	<u>15</u> <u>(GWL)</u>
Boundary stones (milestones)	2	5		2												
Boundary value problems	5	572		50		93				8		1269				
Boundary waters	6	14	12	17	2	2						4				
Boundary waves oceanography	1	1														

APPENDIX B.

NUMBER OF ENTRIES FOR SUBJECT CODES APPEARING IN ONLINE DATABASES: SEARCH COMMAND—SUBJECT=BOUNDARIES

SUBJECT CODES	Total DBases*	ONLINE DATABASES														
		1 (gen)	2 (mul)	3 (mul)	4 (ppr)	5 (bkr)	6 (ess)	7 (bio)	8 (ABI)	9 (Edu)	10 (eric)	11 (scie)	12 (med)	13 (legl)	14 (AUL)	15 (GWL)
Boundaries	10	112	299	43	280	10		101	2					107	12	6
Boundaries-Cases	1					1										
Boundaries-Congresses	2	6												1		
Boundaries-Estates	5	16		2		5								10		14
Ethnic Barriers	1	1														
Boundaries-History	3	4		3												1
Boundaries-in Art, Literature, Religion, Folklore	2			21		1										
Boundaries-Law, Legislation	2	2												2		
Boundaries-Maps	1					2										
Boundaries-Other Countries	4	1												11	48	45
Boundaries-Periodicals	2	1												1		
Political Aspects	2	2		2												
Psychological Aspects	2	3				2										
Study and Teaching	1	2														
United States	3	5													61	53
Vegetation	1	1														

\*Since it is certainly possible some entries are double counted, that is, some entries (titles) may appear in several databases, the total number of databases in which a subject category appears are identified in this column rather than summing the total number of entries across the databases. Also, some entries appear more than once within a database if the entry is held at more than one library location. Conducting an analysis to identify and eliminate duplicate entries of titles across the databases was well beyond the parameters of this study.

**APPENDIX C:**  
**EXAMPLES OF LITERATURE CLASSIFIED**  
**IN TRADITIONAL BOUNDARY SPANNING**  
**(Cell A: more spatial, less than full turbulence)**

**1. GENERAL**

1. Fesler, James (1949). Area and Administration. Birmingham: University of Alabama Press.
2. Fisher, Donald (1990). Boundary Work and Science: The Relation Between Power and Knowledge. In Susan E. Cozzens and Thomas F. Gieryn, eds. Theories of Science in Society. Bloomington, Indiana: Indiana University Press: 98-119.
3. Gieryn, Thomas F. (1983). Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists. American Sociological Review 48: 781-795.
4. Katz, Daniel and Robert Kahn (1978). The Social Psychology of Organizations, Second Edition. New York: John Wiley and Sons.
5. March, James G. and Herbert Simon (1958). Organizations. New York: Wiley.
6. Rice, A.K. (1963). The Enterprise and Its Environment. London: Tavistock Publications.
7. Scott, W. Richard (1987). Organizations: Rational, Natural, and Open Systems, 2nd Edition. Englewood Cliffs, New Jersey: Prentice-Hall.
8. Thompson, James D. (1967). Organization in Action: Social Science Bases of Administrative Theory. New York: McGraw-Hill Book Company.

**2. ORGANIZATIONAL BOUNDARIES**

1. Aldrich, J. (1971). Organizational Boundaries and Interorganizational Conflict. Human Relations, 24: 279-293.
2. Bergquist, William (1993). The Postmodern Organization: Mastering the Art of Irreversible Change. San Francisco, CA: Jossey Bass.
3. Brown, Warren B. (1966). Systems, Boundaries, and Information Flow. Academy of Management Journal, 9: 318-327.
4. Davis, Louis E. (1985). Guides to the Design and Redesign of Organizations. In Robert Tannenbaum, Newton Margulies, Fred Masserik and Associates, Human Systems Development. San Francisco, California: Jossey Bass. (see p. 153)
5. Miles, Raymond E., and Charles Snow, Jeffrey Pfeffer (1974). Organization-Environment: Concepts and Issues. Industrial Relations, 13: 244-264.
6. Oliver, Christine (1993). Organizational Boundaries: Definitions, Functions, Properties. Canadian Journal of Administrative Sciences 10: 1-17.
7. Reed, Michael and Michael Hughes (1992). Rethinking Organization: New Directions in Organization Theory and Analysis. Newbury Park, California: Sage.
8. Sherwood, Frank P. (1975). An Introduction to Environmental Analysis. (Handout for PA 695). Unpublished. Available from the author at The Florida State University, Askew School of Public Administration and Policy.

9. Starbuck, William (1983). Organizations and Their Environments. In Marvin Dunnette, ed. Handbook of Organizational and Industrial Psychology. New York: John Wiley and Sons.
10. Weisbord, Marvin R. (1978). Organizational Diagnosis: A Workbook of Theory and Practice. Reading, MA: Addison-Wesley.

### 3. **BOUNDARY SPANNING ROLES / ORGANIZATIONAL BOUNDARY ROLE**

1. Adams, J. Stacey (1983). The Structure and Dynamics of Behavior in Organizational Boundary Roles. In Marvin D. Dunnette, ed., Handbook of Industrial and Organizational Psychology, New York: John Wiley and Sons, 1175-1200.
2. Aldrich, Howard and Diane Herker (1977). Boundary Spanning Roles and Organization Structure. Academy of Management Review, 2: 217-230.
3. Baroudi, Jack (1985). The Impact of Role Variables on IS Personnel Work Attitudes and Intentions. MIS Quarterly 9,4: 341-356.
4. Church, Pamela H. and J. David Spiceland (1987). Enhancing Business Forecasting with Input from Boundary Spanners. Journal of Business Forecasting 6,1: 2-6.
5. DeMeyer, Arnoud (1991). Tech Talk: How Managers Are Stimulating Global R&D Communication. Sloan Management Review 32,3: 49-58.
6. Friedman, Raymond A. and Joel Podolny (1992). Differentiation of Boundary Spanning Roles: Labor Negotiations and Implications for Role Conflict. Administrative Science Quarterly 37: 28-47.
7. Gardner, John W. (1990). On Leadership. New York: The Free Press.
8. Goolsby, Jerry R. (1992). A Theory of Role Stress in Boundary Spanning Positions of Marketing Organizations. Journal of the Academy of Marketing Science 20,2: 155-164.
9. Gross, Neal and Ward Mason, Alexander McEachern (1958). Explorations in Role Analysis: Studies of the School Superintendency Role. New York: John Wiley & Sons, Inc.
10. Harman, Keith A. and C. McClure (1983). Organization Boundary Spanning and Academic Research Administrators. Journal of the Society of Research Administrators 15,1: 35-48.
11. Harrison, Teresa and M.Debs (1988). Conceptualizing the Organizational Role of Technical Communicators: A Systems Approach. Journal of Business and Technical Communication 2,2: 5-21.
12. Ibarra, Herminia (1993). Network Centrality, Power, and Innovation Involvement: Determinants of Technical and Administrative Roles. Academy of Management Journal 36,3: 471-501.
13. Jackson, S. and R. Schuler (1985). A Meta-Analytic Conceptual Critique of Research on Role Ambiguity and Conflict in Work Settings. Organizational Behavior and Human Decision Processes 36: 16-78.
14. Jemison, David B. (1984). The Importance of Boundary Spanning Roles in Strategic Decision Making. Journal of Management Studies 21, 2: 131-152.
15. Jerrell, J.M. (1984). Boundary Spanning Functions Served by Rural School Psychologists. Journal of School Psychology 22,3: 259-71.
16. Kahn, Robert L., and Donald M. Wolfe, Robert P. Quinn, and J. Diedrick Snoek (1964). Organizational Stress: Studies in Role Conflict and Ambiguity. New York: John Wiley.

17. Keller, Robert T. and Winford Holland (1975). Boundary Spanning Roles in a Research and Development Organization: An Empirical Investigation. Academy of Management Journal (June): 388-393.
18. Kolchin, Michael G. (1986). The Role of Structure in the Performance of Department Store Purchasing Agents. Journal of Purchasing and Materials Management 22: 7-12.
19. Lam, Y.L. Jack (1984). Sources of Managerial Stress of the Public School Administrators: A Typology. Education 105,1: 46-52.
20. Leifer, Richard (1975). An Analysis of the Characteristics and Functioning of Interorganizational Boundary Spanning Personnel. Ph.D. Dissertation. Madison: University of Wisconsin.
21. Lysonski, S., V. Nilakant, D. Wilemon (1989). Role Stress Among Project Managers. Journal of Managerial Psychology 4,5: 25-31.
22. Lysonski, Steven (1985). A Boundary Theory Investigation of the Product Manager's Role. Journal of Marketing 49: 26-40.
23. Lysonski, Steven and Alan Singer, David Wilemon (1989). Coping with Environmental Uncertainty and Boundary Spanning in the Product Manager's Role. Journal of Consumer Marketing 6,2: 33-44.
24. Lysonski, Steven and Arch G. Woodside (1989). Boundary Role Spanning Behavior, Conflicts, and Performance of Industrial Product Managers. Journal of Product Innovation Management 6,3: 169-184.
25. Michaels, Ronald and William Cron, Alan Dubinsky, Erich Joachimsthaler (1988). Influence of Formalization on the Organizational Commitment and Work Alienation of Salespeople and Industrial Buyers. Journal of Marketing Research 25,4: 376-383.
26. Middaugh, Michael (1984). An Empirical Evaluation of Boundary Spanning as a Conceptual Framework for Examining the Organizational Roles of Offices of Institutional Research. Paper presented at the Annual Forum of the Association for Institutional Research.
27. Miles, Robert H. (1974). Role Conflict and Ambiguity in Boundary and Internal Roles: A Field Study Using Role Set Analysis and Panel Design. Ph.D. Dissertation. Chapel Hill: University of North Carolina.
28. Miles, Robert H. (1976). A Comparison of the Relative Impacts of Role Perceptions of Ambiguity and Conflict by Role. Academy of Management Journal. 19: 25-35.
29. Miles, Robert H. (1980). Organization Boundary Roles and Units. In Macro-Organizational Behavior. Glenview, Illinois: Scott, Foresman and Company.
30. Miles, Robert H. (1976). Role Requirements as Sources of Organizational Stress. Journal of Applied Psychology 61,2: 172-179.
31. Neiman, Lionel J. and James W. Hughes (1951). The Problem of the Concept of Role—A Resurvey of the Literature. Social Forces (December): 141-149.
32. Newman, Jerry M. (1988). Compensation Strategy in Declining Industries. Human Resource Planning 11,3: 197-206.
33. Organ, Dennis W. (1971). Some Variables Affecting Boundary Role Behavior. Sociometry, 34: 524-537.
34. Organ, Dennis W. (1971). Linking Pins Between Organizations and Environment. Business Horizons, 14: 73-80.

35. Parkington, John J. and Benjamin Schneider (1979). Some Correlates of Experienced Job Stress: A Boundary Role Study. Academy of Management Journal 22,2: 270-281.
36. Piercy, Nigel F. (1989). Information Control and the Power and Politics of Marketing. Journal of Business Research 18 3: 229-243.
37. Pontius, John Samuels (1984). An Examination of the Role Relationships Between Members of the U.S. House of Representatives and Their Administrative Assistants. Washington, D.C.: USC-WPAC DPA Dissertation.
38. Pruden, H.O. and B.J. Stark (1971). Marginality Associated with Interorganizational Linking Process, Productivity, and Satisfaction. Academy of Management Journal, 14: 145-148.
39. Rhoads, Gary K. and Jagdip Singh, Phillips Goodell (1994). The Multiple Dimensions of Role Ambiguity and Their Impact Upon Psychological and Behavioral Outcomes of Industrial Salespeople. Journal of Personal Selling and Sales Management 14, 3: 1-24.
40. Richards, Edgar (1981). Career Education Linking Agents: Perspectives and Roles. Philadelphia, PA: Research for Better Schools. ED199452
41. Singh, Jagdip (1993). Boundary Role Ambiguity: Facets, Determinants, and Impacts. Journal of Marketing 57: 11-31.
42. Singh, Jagdip and Gary K. Rhoads (1991). Boundary Role Ambiguity in Marketing Oriented Positions: A Multidimensional, Multifaceted Operationalization. Journal of Marketing Research 38 or 28, 3: 328-338. (boundary spanners)
43. Singh, Jagdip and Jerry Goolsby, Gary Rhoads (1994). Behavioral and Psychological Consequences of Boundary Spanning Burnout for Customer Service Representatives. Journal of Marketing Research 31, 4: 558-569.
44. Smith, James Allen (1991). Brookings at Seventy-Five. Washington, D.C.: The Brookings Institution.
45. Spanning, Mary Ann and others (1984). The Relationship of Public Relations and Board-Level Boundary Spanning Roles to Corporate Social Responsibility. Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication. ED245268.
46. Spekman, Robert E. (1979). Influence and Information: An Exploratory Investigation of the Boundary Role Person's Basis of Power. Academy of Management Journal 22,1: 104-117.
47. Steadman, Henry J. (1992). Boundary Spanners: A Key Component for Effective Interactions of the Justice and Mental Health Systems. Law and Human Behavior 16:1: 75-87.
48. Tung, Rosalie (1980). Comparative Analysis of the Occupational Stress Profiles of male versus Female Administrators. Journal of Vocational Behavior 17, 3: 344-55.
49. Tushman, M.R. & T.J. Scanlan (1981). Boundary Spanning Individuals: Their Role in Information Transfer and Their Antecedents. Academy of Management Journal, 24, 2: 287-305.
50. Tushman, M.R. and T.J. Scanlan (1981). Characteristics and External Orientations of Boundary Spanning Individuals. Academy of Management Journal 24, 1: 83-98.
51. Tushman, Michael L. (1977). Special Boundary Roles in the Innovation Process. Administrative Science Quarterly, 22 (December): 587-605.



52. Wall, James A. and J. Stacy Adams (1974). Some Variables Affecting a Constituent's Evaluations of and Behavior Toward a Boundary Role Occupant. Organizational Behavior and Human Performance, 11: 390-408.
53. Watts, Theodora Kinderman (1982). Management and Organization in Federal Agencies: An Analysis of the Characteristics and Functioning of Boundary-Spanning Personnel. Ph.D. Dissertation. Washington, D.C.: American University.
54. Weatherly, Kristopher A. and David Tansik (1993). Tactics Used by Customer-Contact Workers: Effects of Role Stress, Boundary Spanning, and Control. International Journal of Service Industry Management 4,3: 4-17.
55. Wood, Van R. and Dushir Tandon (1994). Key Components in Product Management Success (and Failure): A Model of Product Managers' Job Performance and Job Satisfaction in the Turbulent 1990s and Beyond. Journal of Product and Brand Management 3,1: 19-38.

#### 4. BOUNDARY SPANNING PROCESS / ACTIVITY

1. Ancona, D.G. (1988). Groups in Organizations: Extending Laboratory Models. In C. Hendrick (ed.) Annual Review of Personality and Social Psychology: Group and Intergroup Processes. Beverly Hills, CA: Sage.
2. Ancona, Deborah G. and David F. Caldwell (1992). Bridging the Boundary: External Activity and Performance in Organizational Teams. Administrative Science Quarterly 37: 634-665.
3. At-Twajiri, Mohamed I.A. and John R. Montanari (1987). The Impact of Context and Choice on the Boundary-Spanning Process: An Empirical Extension. Human Relations, 40, 12: 783-798.
4. Bartunek, Jean and Christine Reynolds (1983). Boundary Spanning and Public Accountant Role Stress. Journal of Social Psychology 121 (October): 65-72.
5. Bozeman, Barry and Michael Crow (1991). Technology Transfer from U.S. Government and University R&D Laboratories. Technovation 11,4: 231-245.
6. Brown, Warren B. (1966). Systems, Boundaries, and Information Flow. Academy of Management Journal 9: 318-327.
7. Brown, Warren B. (1984). Boundary Spanning in Electronics Firms. IEEE Transactions on Engineering Management 31: 105-111.
8. Cappelli, Peter and Peter D. Sherer (1989). Spanning the Union / Nonunion Boundary. Industrial Relations 28:2: 206-226.
9. Clark, Terry (1994). National Boundaries, Border Zones, and Marketing Strategy: A Conceptual Framework and Theoretical Model of Secondary Boundary Effects. Journal of Marketing 58: 67-80.
10. Copacino, William C. (1994). The Ultimate Supply-Chain Vision. Traffic Management 33,5: 29-30.
11. Dollinger, M.J. (1984). Environmental Boundary Spanning and Information Processing Effects on Organizational Performance. Academy of Management Journal, 27: 351-368.
12. Fennel, Mary L. and Jeffrey A. Alexander (1987). Organizational Boundary Spanning in Institutionalized Environments. Academy of Management Journal 30: 456-76.

13. Finet, Dayna (1993). Effects of Boundary Spanning Communication on the Sociopolitical Delegitimation of an Organization. Management Communication Quarterly 7,1: 36-66.
14. Gogniat, Donald and S. Henrich (1993). Boundary Spanning from a Cross Cultural Perspective. Journal of Continuing Higher Education 41,2: 45-48.
15. Ibrahim, Mohamed, Ahmad At-Twajiri, and John Montanari (1987). The Impact of Context and Choice on the Boundary-Spanning Process: An Empirical Extension. Human Relations: 40: 783-798.
16. Katz, Ralph and Michael Tushman (1983). A Longitudinal Study of the Effects of Boundary Spanning Supervision on Turnover and Promotion in Research and Development. Academy of Management Journal 26: 437-456.
17. Keller, Robert, Andrew Szilagy, and Winford Holland (1976). Boundary Spanning Activities and Employee Reactions: An Empirical Study. Human Relations, 29: 699-710.
18. Kramer, Howard C. (1980). Boundary Spanning: Implications for Student Personnel. Journal of College Student Personnel 21,2: 105-8.
19. Kramer, Howard C. (1980). Boundary Spanning: Implications for Student Personnel. Journal of College Student Personnel 21,2: 105-08.
20. Leifer, Richard and Andre Delbecq (1978). Organizational/Environmental Interchange: A Model of Boundary Spanning Activity. Academy of Management Review, 3: 40-50.
21. Leifer, Richard and George P. Huber (1977). Relations among Perceived Environmental Uncertainty, Organizational Structure, and Boundary-Spanning Behavior. Administrative Science Quarterly, 22: 235-247.
22. Long, Larry W. and V. Hazelton (1987). Public Relations: A Theoretical and Practical Response. Public Relations Review 13,2: 3-13.
23. Robertson, Peter J. (1995). Involvement in Boundary Spanning Activity: Mitigating the Relationship between Work Setting and Behavior. JPART 5:1: 73-98.
24. Schwab, R.C., G.R. Ungson, & W.B. Brown (1985). Redefining the Boundary Spanning-Environment Relationship. Journal of Management, 11: 75-86.
25. Seror, Ann C. (1989). A Study of Individual Boundary Spanning Communication Patterns in a Research and Development Setting. Engineering Management International 5,4: 279-290.
26. Springston, Jeffrey K. and Greg Leichy (1994). Boundary spanning activities in public relations. Journalism Quarterly 71, 3: 697-708.
27. Weedman, Judith (1992). Informal and Formal Channels in Boundary-Spanning Communication. Journal of the American Society for Information Science 43: 257-267.
28. Zachary, William B. (1982). Stepping Over Boundaries. Supervisory Management 27: 31-5.

##### 5. **BOUNDARY SPANNING INFRASTRUCTURE**

1. Johnson, Elmima and Louis Tornatzky (1981). Academia and Industrial Innovation. New Directions for Experiential Learning (Business and Higher Education: Toward New Alliances) 13: 47-63. EJ253907
2. Niederkofler, Martin (1991). The Evolution of Strategic Alliances: Opportunities for Managerial Influence. Journal of Business Venturing 6,4: 237-257.

### 3. Boundary Commissions

#### 1. Transboundary Water Resources; International Boundary Commissions:

1. Caldwell, Lynton K. (1993). Emerging Boundary Environmental Challenges and Institutional Issues: Canada and the United States. Natural Resources Journal 33, 1: 9-32.
  2. Ingram, Helen and David R. White (1993). International Boundary and Water Commission: An Institutional Mismatch for Resolving Transboundary Water Problems. Natural Resources Journal 33, 1: 153-176.
  3. Lemarquand, David (1993). The International Joint Commission and Changing Canada-United States Boundary Relations. Natural Resources Journal 33, 1: 59-92.
  4. Mumme, Stephen (1993). Innovation and Reform in Transboundary Resource Management: A Critical Look at the International Boundary and Water Commission, United States and New Mexico. Natural Resources Journal 33, 1: 93-120.
  5. Szekely, Alberto (1993). Emerging Boundary Environmental Challenges and Institutional Issues: Mexico and the United States. Natural Resources Journal 33, 1: 33-46.
2. St. Louis Post-Dispatch (1993). The Limits of the Boundary Commission. June 10: C 2:1.

**APPENDIX D:**  
**EXAMPLES OF LITERATURE CLASSIFIED**  
**IN SEAMLESS BOUNDARY SPANNING**  
(Cell B: more temporal, less than full turbulence)

**1. GENERAL**

1. Campbell, Mary B . and Robyn Selman (reviewer) (1990). The World, the Flesh, and Angel (book review). The Nation 251 (Oct 29): 496.
2. Casey, Donald M. Boundaryless Brands. Across the Board 30: June: 48.
3. Hitt, Michael A., R. Duane Ireland, Robert E. Hoskisson (1995). Strategic Management: Competitiveness and Globalization. Minneapolis: West Publishing Company. Boundary spanning, p. 38; boundaryless org, 335-6.
4. Linden, Russ (1994). Seamless Government: A Practical Approach to Reengineering in the Public Sector. San Francisco, CA: Jossey Bass.
6. Schon, Donald (1971). Beyond the Stable State. New York: W.W. Norton and Company.
7. Sheridan, John H. (1994). EI: The Next Plateau. Industry Week 243,12: 30-38.
8. Verbicky, Elaine (1991). Natural Gas Pipes Up. Petroleum Economist 58: 14-15.

**2. ORGANIZATIONS**

1. (some interorganizational and network literature, see cell D)
2. Berg, Deanna (1993). Experience Can Be the Worst Teacher. Journal for Quality and Participation 16,2: 24-26.
3. Davidson, William and Stanley Davis (1990). Management and Organization Principles for the Information Economy. Human Resource Management 29: 365-383.
4. Devanna, Mary Anne and Noel Tichey (1990). Creating the Competitive Organization of the 21st Century: The Boundaryless Corporation. Human Resource Management 29: 455-71.
5. Gilmore, Thomas N. and Larry Hirschhorn, Mal O'Connor (1994). The Boundaryless Organization. Healthcare Forum 37,4: 68-72.
6. Hirschhorn, Larry and Thomas Gilmore (1992). The New Boundaries of the Boundaryless Company. Harvard Business Review 70: May-June: 104-115.
7. Irwin, Harry (1991). Technology Transfer and Communication: Lessons from Silicon Valley, Route 128, Carolina's Research Triangle and Hi-Tech Texas. Journal of Information Science Principles and Practice 17,5: 273-280.
8. Lincoln, James R. (1982). Intra- and Inter- Organizational Networks. Research in the Sociology of Organizations. 1: 1-38.
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2. Day, Charles R. (1994). It All Begins with Attitude. Industry Week 243,11: 6-7.
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3. Keen, P.W. (1991). Shaping the Future. Boston: Harvard Business School Press.

**APPENDIX E:**  
**EXAMPLES OF LITERATURE CLASSIFIED**  
**IN LEARNING-VALUE CREATION/INTERPRETATION**  
**BOUNDARY SPANNING**  
(Cell C: more temporal, more turbulent)

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6. Michael, Donald N. (1989). Forecasting and Planning in an Incoherent Context. Technological Forecasting and Social Change 36: 79-87.
7. Ohmae, Kenichi (1990). The Borderless World: Power and Strategy in the Interlinked Economy. New York: Harper.
8. Sherwood, Frank P. (1975). Dealing with Dominance: The Center's Role in an Increasingly Unbalanced System. Public Administration Review (December): 723-728.
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### 3. NEW VALUES

1. Catron, Bayard (1995). Sustainability and Intergenerational Equity: An Expanded 21st Century Stewardship Role for Public Administration. Proceedings, Eighth Annual Public Administration Theory Conference, Seattle, Washington. Available from the author at George Washington University, Department of Public Administration.
2. Harmon, Michael M. (1995). The Paradox of Responsibility: A Critique of Rational Discourse on Government. Newbury Park, CA: Sage.
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### 4. PSYCHOLOGICAL BOUNDARIES: SUBJECTIVE BOUNDARIES

1. Hirschhorn, Larry (1992). The Workplace Within: Psychodynamics of Organizational Life. Cambridge, Massachusetts: The MIT Press.
2. O'Hara, Maureen (1994). Future Mind: Is Humanity Headed for Psychic Breakdown or Consciousness Breakthrough in the Era of Globalization? Unpublished manuscript. San Francisco, California: Meridian International Institute for Governance, Leadership, Learning, and the Future.
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1. Achrol, Ravi (1991). Evolution of the Marketing Organization: New Forms for Turbulent Environments. Journal of Marketing 55: 77-93.
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1. Cleveland, Harlan (1985). The Knowledge Executive: Leadership in an Information Society. New York: Truman Talley Books.

### 7. FOUNDATIONS: PHILOSOPHY

1. Doczi, Gyorgy (1994). The Power of Limits: Proportional Harmonies in Nature, Art, and Architecture. Boston, Massachusetts: Shambhala.



2. Kolb, David (1990). PostModern Sophistications: Philosophy, Architecture, and Tradition. Chicago, Illinois: University of Chicago Press.
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**APPENDIX F:**  
**EXAMPLES OF LITERATURE CLASSIFIED**  
**IN SPATIAL-TURBULENT BOUNDARY SPANNING**  
(Cell D: more spatial, more turbulent)

**1. GENERAL**

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3. Ingraham, Patricia and Barbara Romzek & Associates, *New Paradigms for Government: Issues for the Changing Public Service*. San Francisco, California: Jossey Bass: 19-40.
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  10. Gilmore, Thomas N. (1982). Leadership and Boundary Management. Journal of Applied Behavioral Science, 18: 343-356.
  11. Heifetz, Ronald A. (1994). Leadership Without Easy Answers. Cambridge, Massachusetts: The Belknap Press of Harvard University Press.
  12. Hirschhorn, Larry (1991). Managing in the New Team Environment: Skills, Tools, Methods. Reading, MA: Addison-Wesley.
  13. Sherwood, Frank (1976). The American Public Executive in the Third Century. Public Administration Review (September/October): 586-591.
  14. Smith, Kenwyn and David Berg (1987). Paradoxes of Group Life. San Francisco, CA: Jossey Bass.
  15. Stupak, Ronald J. (1987). How to Grow a Public Executive: The Federal Executive Institute Experience. International Journal of Public Administration, 10: 439-464.
3. **BOUNDARY (SPANNING) INFRASTRUCTURE**
1. Bushe, Gervase and A.B. Shani (1991). Parallel Learning Structures: Increasing Innovation in Bureaucracies. Reading, MA: Addison Wesley.
  2. Caiden, Gerald (1991). Administrative Reform Comes of Age. New York: Walter de Gruyter.
  3. Fairtlough, Gerard (1994). Creative Compartments: A Design for Future Organization. London, England: Adamantine Press Limited.
  4. Halley, Alexis (1994). Applications of Transorganization Development to Congressional-Executive Relations. Public Administration Quarterly 18,2: 177-203.
  5. Networks / Interorganization Theory
    1. Benson, J. Kenneth (1975). The Interorganizational Network as a Political Economy. Administrative Science Quarterly 20: 229-249.
    2. Charan, Ram (1991). How Networks Reshape Organizations—For Results. Harvard Business Review (September-October): 104-115.
    3. Galaskiewicz, Joseph (1985). Interorganizational Relations. Annual Review of Sociology 11: 281-304.
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    6. Kilmann, Ralph et al (1991). Making Organizations Competitive: Enhancing Networks and Relationships Across Traditional Boundaries. San Francisco, California: Jossey Bass.
    7. Lincoln, James R. (1982). Intra- and Inter- Organizational Networks. Research in the Sociology of Organizations. 1: 1-38.
    8. Miles, Rayment E. and C.C. Snow (1994). Fit, Failure, and the Hall of Fame How Companies Succeed or Fail. New York: The Free Press.

9. Miles, Raymond E. and Charles Snow (1992). Causes of Failure in Network Organizations. California Management Review (Summer): 53-71.
10. Negandhi, Anant R. (1975). Interorganization Theory. Kent, Ohio: Kent State University Press.
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13. Snow, Charles, Raymond Miles, Henry Coleman (1992). Managing 21st Century Network Organizations. Organizational Dynamics (Winter): 5-20.
14. Snyder, Glenn H. (1991). Alliances, Balances, and Stability. International Organization 45, 1: 120-142.
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7. Thayer, Fred (1973). An End to Hierarchy! An End to Competition! Organizing the Politics and Economics of Survival. New York: New Viewpoints.
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**APPENDIX G.  
BOUNDARY SPANNING AND ADAPTATION**

	<b>Rational Analytic Boundary Spanning</b>	<b>Temporal Boundary Spanning</b>
<b>Boundary Values</b>	<p>Organization adapts or fails to adapt to changes in environment through behavior of those who interact across organization-environment boundary</p> <p>Control</p>	<p>Organizational responsiveness to customers</p> <p>Interorganizational (larger unit of attention) effectiveness</p> <p>Continuous adaptation</p> <p>Mission and boundary crises</p>
<b>Types of Boundaries</b>	<p>Organization-environment</p> <p>Work setting and behavior</p> <p>Open, permeable, veridical</p> <p>Organization's boundary is the point where uncertainty is converted into information and decisions</p>	
<b>Role</b>	<p>Boundary spanners more influenced by work goals than by manager's behaviors</p> <p>Represent and protect organization; act as information gatekeeper, link, coordinate, monitor, scan the external environment</p> <p>Role ambiguity, role stress, role conflict, burnout</p> <p><b>Marginality</b></p>	<p>Preserve organizational identity</p> <p>Seek out and engage environmental turbulence</p>
<b>Processes</b>	<p>Differences in how boundary spanning is carried out across organizations</p> <p>Boundary adjustment</p> <p>Strategy, operations, tactics</p>	<p>Interorganizational (feedback from environment and between organizational subgroups)</p> <p>Manage paradox</p>
<b>Infrastructure</b>	<p>Boundary spanning differs from productive core</p> <p>Strategic planning / management</p>	

**APPENDIX H.**  
**BOUNDARY SPANNING AND LEADERSHIP AND POWER**

	<b>Rational Analytic Boundary Spanning</b>	<b>Temporal Boundary Spanning</b>
<b>Boundary Values</b>	Legitimacy; Membership; Power; Trust  Respect and preserve constitutional boundaries  Productivity; Performance  Struggle for control	Shared values that set new boundaries (e.g., rapid response)  Integrated diversity  Continually shifting power and status  Letting go
<b>Types of Boundaries</b>	Leadership at the borders where there is a break in parts of the system	Management of boundaries at organizational and individual (interpersonal) levels  Boundaries are paths of exchange
<b>Role</b>	Public executive wherever you are  Two potentially independent roles: gatekeeper, representative  Ambassador and interpreter of external environment to home organization, with decreasing capacity to influence events there  Power, influence  Information, linking pin  Boundary hunter; boundary patrol; boundary official	Look at the boundary and the politics of its social construction  Renegotiate roles, structures, patterns of relationships on a much more frequent basis  Bridge cultural differences  Diplomacy of interdependence  Awareness of wider range of images and identities
<b>Processes</b>	Map situations in terms of strategy, operations, tactics  Jurisdiction; turf  Specialization; economies of scale  Information processing  Boundary conflict; disputes  Politics of boundaries	Map situations in terms of values (synthetic, reality creating)  Knock down walls that separate  Exchange leadership  Boundary change, bending, breaking, busting, revitalizing, transforming
<b>Infrastructure</b>		Create innovative boundary spanning structures to reframe conflict  Flat, temporary structures; alliances

**APPENDIX I.**  
**BOUNDARY SPANNING AND LEARNING AND INNOVATION**

	<b>Rational Analytic Boundary Spanning</b>	<b>Temporal Boundary Spanning</b>
<b>Boundary Values</b>	Information acquisition	Holism, integration, seamless service for customer outcomes  Searching, exploratory attitude  More complex images; mental maps and models
<b>Types of Boundaries</b>	Boundaries of material circumstances; geography  Continuing mismatch between institutions and boundaries they create	Boundaries determined by concepts, relationships, information flows  Ever shifting center  Internal horizontal; external horizontal; internal vertical  Rapidly shifting, blurring, transparent boundaries  Between generations
<b>Role</b>	Boundary spanners who can reach across boundaries	Learner – embrace and acknowledge error  Government learns for society as a whole; civic learning  Educator (teach people what new boundaries matter the most)
<b>Processes</b>	Boundaries are crucial sites for learning and innovation  Boundary communication inefficient and prone to bias and distortion  Deregulation	Managing based on information  Build a common language in which to communicate  Appreciative management  Planning as learning  Transorganizational development  Joint training and development
<b>Infrastructure</b>	Institutions matter because of boundaries they create  Too many boundary roles may be inefficient; distributed boundary role important	Boundary spanning, learning infrastructure  Organizations to create / perceive new boundaries  Widely distributed, differentiated boundary spanning

**APPENDIX J.  
BOUNDARY SPANNING AND DESIGN**

	<b>Rational Analytic Boundary Spanning</b>	<b>Temporal Boundary Spanning</b>
<b>Boundary Values</b>	<p>Doctrine of separation of powers</p> <p>Enhance collective capacity to act</p> <p>Discrimination</p>	<p>Concept of comity; reciprocal relationships</p> <p>What values should determine appropriate location of system boundaries</p> <p>Create value -- enhance collective capacity to act</p>
<b>Types of Boundaries</b>	<p>Complexity and contradiction within and between administrative and geographic boundaries</p> <p>Government creates (designs) the boundary conditions within which individuals, businesses, others can create value</p> <p>Within firms, between firms</p> <p>Clear boundaries; unclear purpose</p>	<p>No difference between inter- and intra-organization (need new categories)</p> <p>Attention to functional areas of society (versus organization focus) – much wider lens for designs</p> <p>Creative compartments</p> <p>Clear identity, clear purpose</p> <p>Rapidly shifting, blurring, transparent boundaries</p>
<b>Role</b>	<p>Design system</p>	<p>Government's role: sustaining and enhancing collective capacity to choose and to act among numerous interfaces (organization-environment only one)</p> <p>Perceive and act in new boundary categories (e.g., creating place value in jurisdictional and civic infrastructure)</p>
<b>Processes</b>	<p>Better designing the interface between systems, interactions between systems, including changing laws</p>	<p>Valuing (creating) and interpretation systems (design legitimate new arenas for collective choice)</p>
<b>Infrastructure</b>	<p>Various models of exchange with other organizations</p> <p>Baseball teams</p> <p>Organizations to move boundaries</p> <p>Organizations that separate information from political decision</p>	<p>Limits of boundary commissions</p> <p>Basketball teams</p> <p>Organizations to create / perceive new boundaries</p> <p>Organizations that blur politics / administration</p>



**APPENDIX K.**  
**BOUNDARY SPANNING AND PSYCHIC ASPECTS**

	<b><u>Rational Analytic</u></b> <b><u>Boundary Spanning</u></b>	<b><u>Temporal</u></b> <b><u>Boundary Spanning</u></b>
<b>Boundary Values</b>	<p>Ethics based on principles</p> <p>Compete with everyone; collaborate only when necessary</p> <p>Contain anxiety through reason, power, self-mastery</p>	
<b>Types of Boundaries</b>	<p>Boundary separates the outer world of opportunities and challenges from the inner world of work and personal transformation</p> <p>Pre-modern and modern psyche embedded in tradition, multiple realities -- ours is realist, located in time and space</p>	<p>Subjective boundaries which do not always correspond to formal organizational boundaries</p> <p>Psychological; symbolic</p> <p>Healthy, unhealthy</p>
<b>Role</b>	Stepping in and out of task role	Enabling organizational members to enter roles linked to organizational purposes
<b>Processes</b>	Boundary entry and retreats, psychological fantasies	<p>Faced with shifting boundaries and accompanying anxiety, either: rigidifies boundaries (them-us, win-lose), disintegrates boundaries (no boundaries, no identity, lose-lose), or fluid boundaries (diversity with tolerance, contained competition, mutual recognition, creative pluralism)</p> <p>Psychotherapy</p>
<b>Infrastructure</b>		