Reframing Public Administration: A Systems-methodological

Analysis of Governance and the Role of Public Administration

by

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(ABSTRACT)

Despite repeated attempts, no normative theory of public administration has emerged that fully and satisfactorily answers questions about the role of public administration, and public administrators, in the process of governance. This dissertation argues that such questions are unresolvable because they are framed in terms of overly simplistic systems metaphors relating to *machines* and *organisms*. When theories are framed in terms of these metaphors, they lead inexorably to dichotomies between politics and administration, policy and implementation, and between the society and its government. The dissertation attempts to "reframe" our concept of governance in terms of another metaphor that supports a view of governance as a process that is deeply interrelated and interconnected with its social environment.

To accomplish this task, systems theories and methodologies, developed for use in the management sciences,

are adapted for use in analyzing and critiquing the systems metaphors that underlie the major schools of public administration. The research concludes that many of the theoretical "problems" of public administration are implied by these underlying metaphors, and that theory based in use of the *brain*, or *learning system*, metaphor is likely to produce useful thinking about public administration.

To demonstrate the applicability of the *brain* metaphor, and to investigate the implications of this metaphor for public administration theory, a systems-methodology based in the *brain* metaphor is selected and used to model our American system of governance. This model, in turn, is used as a tool to examine the implications of the metaphor for public administration and the administrative state.

The model leads to the descriptive conclusion that it is the *operational* functions of government that produce governance, and that public administration is indistinguishable from the process of governance itself. The metaphor leads also to prescriptive, or normative theory, about some fundamental concerns of public administration theory: legitimacy, representation and accountability, and the public interest. It is concluded that legitimacy, accountability, and the public interest are all enhanced by *increasing*, not *decreasing* the ability of public administrators to respond to the citizenry.

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Early in my studies at the Center for Public Administration and Policy, Professor Orion White encouraged me to be ambitious in selecting a dissertation topic. His continued encouragement, confidence, support, and helpful suggestions have been invaluable to me in this project. I am deeply indebted to him. I hope he is not disappointed with the result.

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Dwight Waldo encouraged me to undertake this project and provided me with further encouragement, kind words, and helpful suggestions as it neared completion. I am very grateful. Neither he, the members of my committee, nor anyone but me, can be held responsible for any errors contained within this dissertation. They are my responsibility alone.

My appreciation and acknowledgement also goes to those people who have been close to me during this project -- they have been patient, understanding, and supportive. It could not have been done without them. My most special thanks goes to my "family" - human and otherwise - and especially to Patricia, who loves me the most.

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DEDICATION

Richard Cullum and I started Ph.D. work together at the Center for Public Administration and Policy in the Fall of 1990. We shared a great many experiences including classes and independent studies. We were roommates one summer in Blacksburg. We worked together to prepared for preliminary exams and took them the same semester. We spent hours playing with ideas about public administration with others and "trying out" dissertation topics on each other. We hoped to graduate together.

Richard died February 15, 1994 after an 18 month battle with bone marrow cancer. I have never encountered a finer, or a braver man. Despite the distraction and debilitation of his disease, he had made great progress on his own dissertation, but was unable to finish. This dissertation is dedicated to his memory.

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INTRODUCTION

*"My own point of view is that since
administration is so large a subject, and still in
many ways so dark, we should open upon it all the
windows we can find; that all models and idioms
have their virtues -- and their vices; that as we
proceed we exercise as much intelligence and good
will as we can command in determining what any
particular model can or cannot do for us"* (Waldo,
1956, p. 49).

*"Rather than to solve problems it is clever to
dissolve them"* (Beer, 1985, p. xiii)

Context for the Problem

Americans have suffered from ambivalent feelings about

their government since before the founding of the Republic.

The great debate between the Federalists and Anti-

Federalists highlighted those conflicts as they reflected

the context of the times. Americans wanted the freedom that

their individualistic character demanded, while enjoying the

benefits that come from participation in a national

community. The conflict continues unabated, with rhetoric

now cast in modern terms, but still centering on issues of

individualism versus communal action.

Meanwhile, between the Founding and the present, our

nation, our society, indeed the world, has become infinitely

more complex and interconnected. The economy has exploded

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and individual contributions to that economy have become
ever more specialized. Our culture has diversified to the
point that it is far more heterogeneous than homogeneous.
Economic interdependence and social diversity have become
the defining elements in all questions about how we govern
ourselves. Debate now centers on whether our society should
be "self-organizing" economically and socially, or whether
it should be "engineered" to move it in directions that are
in the "public interest." To a certain extent, this debate
involves economic tradeoffs of equality versus efficiency,
but in a broader sense, it reflects the American culture
that thinks of "The Government" as something separate and
distinct from "We the People."

In the midst this larger debate, public administration
theory has been unable to satisfactorily legitimize or even
define a theoretically adequate role for public
administration within the governance system. Nor has theory
resolved, satisfactorily, the apparent dichotomies between
politics and administration or between policy and
implementation. This failure leads to the suspicion that
there is a fundamental problem with the framing of the
concept "public administration." A reexamination of the
conceptual foundations of the field is required.

The Administrative State and the study of public
administration both arose within the context of, and because

of, the combination of complexity and conflict. Almost from the beginning, both have suffered from questions of legitimacy and role. Original attempts to found public administration on a concept of "neutral competence" and more recent attempts to find a Constitutional source of legitimacy have failed to provide a role for "administration" that is separate and distinct from that of "politics." Furthermore, until, or unless, the theoretical foundations of the field of public administration are firmly grounded, the field has no sure basis for development as either science, technology, or art. Unfortunately, American public administration lacks a clear, coherent theory of democratic administration, and little progress has been made since the famous Waldo-Simon exchange of 1952.

Recent attempts to establish a normative theory of American public administration have drawn upon ideas of "agency" (Wamsley, et al. 1990), "stewardship" (Kass, 1990), and "conservatorship" (Terry, 1990) to ground the role of public administration and public administrators in normative images of individual actors drawn from political science and economics. These attempts seem doomed to failure, or at least never ending disagreement, because they are based in dichotomous images of governance and society.

The phrase "dichotomous images," as it is used here, is intended to convey the idea that entities are seen as

essentially separate and distinct from their environments. Government, for example, is seen as an entity that exists independent of the citizenry that it governs, rather as an integral part of society. Politics is considered to be a process that can be distinguished from administration. Policy can be divorced from implementation. These dichotomous images emerge as the result of certain metaphors that we use when we think about governance. Although few serious students of public administration believe any longer that politics can be divorced from administration, the metaphors that produced this dichotomy in the first place remain and frame the problematic situation that public administration theorists address.

The theoretical issues of public administration are deeply imbedded in the cultural context that characterizes our views about how we govern ourselves. Unless we examine and understand how that context has influenced our conception of the process of governing, we cannot clearly address the role of public administrators within that process.

This dissertation argues that these unresolved questions of public administration theory are unresolvable because they derive from the simplistically inadequate metaphors that are used to frame the issues. It attempts to "reframe" the way that we think about governance in terms of

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a metaphor that does not support dichotomous images, but that supports a view of governance as a process that is deeply interrelated and interconnected with its social environment. It proposes that a new metaphor, a "governance is a brain" metaphor, be explicitly adopted. Furthermore, it develops a model of government grounded in that metaphor and examines the implications of that model for public administration. To accomplish this, it adopts an ontological-epistemological perspective based in structuralism (as opposed to positivism), develops a structuralist model of government, and explores the normative implications of this model for public administration. This reframed view of public administration is used to establish a substantive basis for normative theory of American public administration.

Statement of the Problem

The word "government" has been defined as depicting "the formal institutions and processes through which binding decisions are made for a society" and/or "the apparatus of a state, consisting of executive, legislative, and judicial branches" (Shafritz, 1988). "Governance," (or "a system of governance,") as used herein, refers to the socio-technico-economic "system"[1] that results from the continual

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interaction of those institutions and processes with their
social, technical, and economic environments.

A "frame" may be thought of as "a context that is
heavily constrained to meet the needs of the situation"
(Warfield, 1985, p.296). The systems metaphor that we
consciously or unconsciously enact as our image, or mental
model, of an institution "frames" the way that we think
about that entity. The institution, in turn, reflects the
metaphor that frames it, in what amounts to an institutional
"Pygmalion Effect," that reinforces and maintains the frame.

Our present concepts, of public administration as a
field of study and of "The Public Administration" as an
entity of governance, have been shaped by the prevailing
systems metaphors -- most notably those that view
governance as a machine or an organism. At the level of
public administration, these metaphors have proved to be
inadequate, resulting in undecidable, or unresolvable
questions and conflicts regarding, for example, the
relationship of policy to administration, the legitimacy of
"The Public Administration," the role of public
administrators in governance, and the role and content of
public administration as an academic field of study. As
society and its government have become more complex, these
simplistic metaphors - problematic from the start - have
become increasingly inadequate. Fortunately, richer

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metaphors are available, along with systems methodologies that allow us to examine institutions in terms of those metaphors.

Background and Focus of this Research

The systems metaphors that prevail in the field of public administration are the same ones that defined organizational thought in the early part of this century. Taylor's ideas of Scientific Management and Weber's support for bureaucracy as an organizational ideal are both grounded in the metaphorical view of organizations as machines – clockworks – that can be designed, engineered, and controlled with each gear doing its allotted function precisely as intended by its designer. Since their publication, Herbert Simon's <u>Administrative Behavior</u> (1947), and March and Simon's <u>Organizations</u> (1958) have been dominant influences in the fields of public administration and public organizations. Although both books use concepts and phrases suggesting *organismic* systems metaphors, like "equilibrium," they maintain a view of people within organizations that is suggestive of *machines* to be programmed (Kilduff, 1992).

Such metaphors are far too simplistic to be of use in understanding anything as complex as the administrative state. Large organizations in this country and others have

found that bureaucratic models are inadequate for coping with the complexity of today's business environment and that new models, based on more complex systems metaphors, are required. The popularity of books like <u>Reinventing Government</u> (Osborne and Gaebler, 1992) suggests that public organizations are ripe for similar rethinking.

Re-inventing the administrative organizations of government, however, requires a clearer understanding of the system, "government," of which public agencies are subsystems. The alternative is to risk what C. West Churchman (1979) has called "the environmental fallacy" - unexpected and unintended consequences that result when system boundaries are drawn too narrowly.

This dissertation addresses the theoretical questions of the role and legitimacy of public administration. It does this by reframing the way we think about public administration through use of a "learning system," or "brain" metaphor for thinking about governance. It begins by analyzing and critiquing the systems metaphors underlying the major schools of public administration. The research concludes from this analysis that many of the theoretical "problems" of public administration are implied by the underlying metaphors, and that public administration theory based in use of the "brain" metaphor is likely to produce useful thinking about public administration. To demonstrate

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this likelihood, it develops a governance model based on the "brain" metaphor and uses this model as a tool to examine the implications of the metaphor for public administration and the administrative state. Finally, it reframes the theoretical issues of the role and legitimacy of public administration in terms of this new systems metaphor.

Plan and Approach for the Study

This section describes the plan and approach used in the conduct of this study. It, first, provides an overview of the general strategy employed, then, elaborates on that strategy in a way that lays out the plan for the book.

Overview: The Research Strategy

This research consists of two major, but interrelated, efforts. The first involves use of Critical Systems Theory and an adaptation of a meta-methodology known as Total Systems Intervention (Flood & Jackson, 1991a, 1991b) to identify and critique the systems metaphors, or models, that are implicit in our theories of governance and the role of public administration in governance. The effort examines the dominant systems metaphors implied by the various "schools" of public administration, and those suggested by the Constitution and The Federalist. It explores the relationship between those metaphors and the theoretical and

practical problems relating to separation of politics and administration and the role of public administration in the system of governance. It then examines alternative metaphors for potential, useful, application to these problems, concluding that the *brain* metaphor is the most promising.

The second effort uses an appropriate systems methodology as a tool for examining the implications of the "brain" metaphor as it relates to governance and our understanding of the role of public administration in government.

Elaboration of the Strategy and Plan of the Book

This chapter, Chapter One, introduces the problematic situation under consideration, puts it into a proper context and explains the general scheme followed in the balance of the dissertation. Finally, it summarizes the overall findings of the research.

Chapter Two reviews pertinent public administration literature primarily to establish the scope and duration of the theoretical problems which exist with regard to the relationship between "governance" and administration and the role of public administration, and to examine the various attempts to resolve these problems.

Chapter Three develops the systems-methodological approach that is used for the analysis. It begins by briefly tracing the historical evolution of the systems approach, and by summarizing modern developments in systems theories and methodologies in the management sciences. It then introduces the Total Systems Intervention Methodology, explains why this methodology can be particularly useful in the analysis, and adapts that methodology to the problem at hand and lays other groundwork necessary to the analysis.

Having laid the necessary groundwork, Chapter Four begins the analysis of public administration theories, using Critical Systems Theory, in the form of the TSI meta-methodology. The chapter considers three questions: 1) Which metaphors reflect the thinking of historical and current schools of public administration theory, and what metaphors are suggested by the Constitution and The Federalist? 2) How have the prevailing metaphors influenced thinking about the role of public administration? and, 3) How are other metaphors likely to influence thinking about public administration?

Chapter Four concludes that the majority of "schools" of public administration theory show strong reliance on mechanistic and organismic metaphors, except for the Traditionalist and Neo-Traditionalist (Blacksburg) schools of theory, which offer some evidence of use of a "brain"

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metaphor, although neither school makes it the dominant metaphor. Furthermore, it is concluded that mechanistic and organismic metaphors lead inevitably to dichotomous views of governance and administration that support, if not produce, the ideas that politics and administration, policy and implementation, and even the public and its government are separate and distinct entities. A review of other possible metaphors with which to frame our understanding of governance and the role of public administration concludes that a "governance is a brain" metaphor, is the most useful metaphor for our purpose.

Chapter Five continues the use of the TSI meta-methodology to select an appropriate systems methodology that encompasses a structuralist approach based in a dominant *brain* metaphor. Only one methodology is appropriate, Viable Systems Diagnosis, developed by Stafford Beer, and which makes use of a cybernetics-based Viable Systems Model (VSM). This approach is found to offer many attractive features, including: a notion of recursion, distribution of command and control structures throughout the architecture of the system, an emphasis on information systems rather than classical hierarchies, massive interconnections of the system with its environment, and powerful arguments for the democratic definition of purposes (Jackson, 1991). Once Viable Systems Diagnosis has been

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selected as an appropriate systems methodology, the VSM is used, in Chapter Six, to develop a model of our system of American Federal government, showing how it is recursively imbedded in an overall social system of governance, and contains, in turn, the various departments and independent agencies of government recursively imbedded within it.

Chapter Seven, draws upon the results of the analysis of Chapter Five and the model developed in Chapter Six to draw descriptive conclusions about public administration. The chapter directly addresses several issues relevant to public administration theory, beginning with the question of whether there is a "public administration," or a "bureaucracy," that can be thought of as an identifiable entity or institution separate from government. It concludes that, while "government" is an institution, "Public Administration" is not. Public administrators (or, pejoratively, "bureaucrats") can be usefully identified as members of a profession, but not as members of an institution that is distinct from either government, in general, or their agency, in particular. Use of the *brain* metaphor, and the VSM leads to the counterintuitive conclusion that the departments and independent agencies of government, together with all of the recursively contained agencies, offices, divisions, ..., individuals that make up the operational system of government <u>are</u> government. Those

"systems" of governance identified by the Constitution --
the Legislature, Judiciary, and Executive -- are essential
parts of government's command and control systems. By
themselves, however, they cannot generate and sustain
governance -- their tasks are to manage and coordinate what
government does.

The final chapter, Chapter Eight, draws prescriptive,
or normative, conclusions based in the descriptive ability
of the model and the perspective of the *brain* metaphor. It
argues that only that part of government normally identified
with "public administration" is capable of action. It is
this action, as it influences and interacts with the
people's sense that their government is "of the people, by
the people, and for the people," that establishes either the
legitimacy and representativeness of government, or the
opposite. Similarly, it is only through this action that
government can serve the public interest. The appropriate
role, then, for public administrators, is as facilitators of
the process of governance by working to identify the "aims"
of the viable systems for which they have responsibility,
and working to design the systems of governance to meet
those aims.

Summary

Public administration theory has been unable to develop a satisfactory normative theory of American public administration. At least some of the difficulty in developing such theory relates closely to the way we frame our thinking about the process of governance and about government.

Since the "discovery" of Wilson's famous essay and the founding of the field of public administration as a "self-conscious" entity in the 1920's, public administration theory has been dominated, with a few exceptions, by a view of governance as either a mechanistic or an organismic process. The machine metaphor of governance leads to the view that government is an entity - a "machine" that can be designed, understood, and controlled. Such a machine is composed of "parts" which interact in known (or fully knowable) ways. The machine can, therefore, be understood by examination and understanding of each of those parts. The organismic metaphor for governance leads also to the view of government as an entity, but the entity is an "organism," rather than a "machine." Such an organism is composed of "organs" that perform discrete "functions." Both metaphors involve reductionistic views of government as a closed or bounded system that interacts in only very specific and limited ways with its environment.

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The *brain*, (also known as the *neurocybernetic*, *viable system*, or *learning system*,) metaphor adds to the organismic, open systems view an emphasis on the importance of "learning to learn." "Learning to learn," in this context, includes the acceptance of dynamic, rather than static, aims and objectives, and an emphasis on self-questioning as opposed to mere self-regulation. The brain metaphor stresses holism, connectivity, redundancy, and simultaneous specialization and generalization.

We probably use "pieces" from all these metaphors at one time or another, but usually one of them tends to unconsciously dominate our point of view when we think about government and the process of governance. In general, the various "schools" of public administration theory have been heavily based in mechanistic or organismic metaphors.

One notable exception is the "Blacksburg" school (Wamsley, et al, 1990). This school attempts to lay the groundwork for a *refounding* of the field, arguing that the politics/administration dichotomy on which the first founding was based, and the more recent dominance of behaviorism and positivism has led the field into its current dead end. The Blacksburg school proposes a neo-Traditionalist approach grounded in structuralism and directed toward defining a legitimate role for public administration in governance.

The "Blacksburg" message is that the "legitimate" role of public administration can be found in a concept of "trusteeship" in which administrations act as trustees of the constitutional order, acting as a "balance wheel" between competing branches of government, in accordance with an "agency perspective." This perspective is the result of the institutional knowledge and experience that uniquely equips the staffs of agencies with what approaches consensus as to the public interest concerning that agency's function.

The "Blacksburg" perspective appears to draw on the *brain* metaphor, with a lesser (albeit important) emphasis on *culture* and *political* metaphors. These metaphors are applied both to the concept of "public administration," as it relates to an "agency" and to the general concept of "governance." There is still, however, heavy influence from the machine and organism metaphors, and the full implications of the brain metaphor have been neither appreciated nor explored.

This dissertation adds to the *refounding* effort by *reframing* governance explicitly in terms of the *brain* metaphor, and exploring the implications that this reframed concept of governance has for public administration. To aid in that effort, it uses Stafford Beer's Viable Systems Model to develop and analyze a model of governance based in the brain metaphor.

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The Viable Systems Model, which is ontologically identifiable with structuralist science, is based in the assumption that an organization's performance, and ultimately its viability, is closely tied to organizational structure. This structure, in turn, must obey cybernetic principles[2]. For the purposes of this analysis, the model was used to examine the organizational structures of government and society in terms of cybernetic principles -- not for diagnosis, but to gain further understanding of the structural roles involved in public administration.

The structural view of governance, using the *brain* metaphor, leads to the view of public administration as dealing with the operation of government, but the operation of government involves, recursively, all the structural functions of government. In addition, the operational systems of government are involved in the autopoietic[3] generation of government -- the generation of new forms of governance in response to and in interaction with, the environment. While public administrators cannot control the surface features, or details, of the governmental process, they can design, or influence the design of, structural features of governance that ultimately influence the public's sense that government is legitimate, accountable, and generally acts in the public's interest. The search for

normative theory, therefore, should not focus simply on positive normative images for public administrators, but on how public administrators can best facilitate the autopoietic processes in which they are immersed.

Notes to Chapter One

1. Some might prefer the term "process" to "system." The view held throughout this dissertation is that such a process is a system.

2. Cybernetics is the name originally applied to the science of control in man-machine systems. The principles which have been found to apply to the control of such systems are broadly applicable to any sort of system which interacts with its environment in such a way as to maintain its own identity.

3. "Autopoiesis" refers to a process whereby a system is self-organizing -- it generates, develops, and maintains itself. A system is "autopoietic" when it possesses all the information and structure necessary for autopoiesis.

CHAPTER 2

THE THEORETICAL PROBLEMS OF PUBLIC ADMINISTRATION: A REVIEW
OF THE LITERATURE

> *Enough has been said, it is believed, to show that*
> *there are two distinct functions of government,*
> *and that their differentiation results in a*
> *differentiation, though less complete, of the*
> *organs of government provided by the formal*
> *governmental system. These two functions of*
> *government may for purposes of convenience be*
> *designated respectively as Politics and*
> *Administration. (Goodnow, 1900).*

This chapter reviews past attempts to develop a

normative theory of American public administration. It

traces, via the literature, the history of the field of

public administration as it has wrestled with the

interrelated problems of legitimacy, the role of

administration in democratic governance, the separation of

politics and administration and other conceptual issues that

attempt to define "administration" as it relates to

"governance," or the role of public administrators in the

process of governing. It concludes that the issues continue

unresolved, and that little real progress has been made,

because the issue of complexity has not been addressed.

The Early Literature: Framing the Issues

"Self-conscious" public administration, as Waldo termed

it, did not fully emerge until the nineteen twenties, (Waldo, 1984:42), but "precursors" of self-awareness began to appear in the late nineteenth century with the rise of progressivism. During the so-called "Classical" era of public administration, which lasted roughly from the late 1800s through the mid-1930s, theorists like Wilson, Weber, Taylor, Goodnow, Follett, Brownlow, Gulick and others - by no means all academics - contributed to public administration theory.

Although it was not recognized as such at the time, the intellectual founding of the field of public administration can be traced to Wilson's, 1887 article, "The Study of Administration." Government, in Wilson's view, consisted of two important questions. The first: "Who shall make law, and what shall that law be", had received much attention from political philosophers. The second question, "how law should be administered with enlightenment, with equity, with speed, and without friction" had been put aside as "practical detail." By addressing these questions, Wilson, perhaps unintentionally, established the field of public administration on the dichotomous framework of a distinction between politics and administration.

Wilson recalled that thought about government had historically dealt with the question of who should control government, and not about how government should operate.

Since life was simple, the operation, or the function, of government was also simple. Wilson recognized, however, that government had become far more complex than had been envisioned by the Founders. In tracing the history of administration in American government, Wilson concluded that "There is scarcely a single duty of government that was once simple which is not now complex."

Wilson's assumed distinction between who should make law and how it should be administered, however, is questionable based on his own evidence. Wilson quotes Bagehot, describing despots sending a satrap to a distant province. The satrap, in turn, rules the province independently, with little contact with the despot. If things go badly in the province, the satrap is replaced. Things are different, however, in "civilized" countries, which erects bureaus, demands reports, and double checks the figures.

One might infer from Bagehot's "whimsical" account, an early view of governance that made no distinction between politics and administration, because the "command and control" systems of governance were, of necessity, disbursed. Somewhere along the way, aided, undoubtedly, by improvements in transportation and communications, the idea that making laws and administering them were distinct and separate functions of government evolved. This idea, it

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will be argued in a later chapter, is a natural result of
the prevailing post-Renaissance systems metaphor, the
machine metaphor.

The other intellectual founder of Classical public
administration was Frank Goodnow (1900). To Goodnow, also,
there were clearly two distinct primary functions of
government. The first was the expression of the will of the
state. The second was the execution of that will.

The Failure of Theory

The early, or classical, period of public
administration began to wane by the mid-30's and had passed
by the end of WWII. By this time, the orthodox views
expressed by Wilson had broken down, and a broadly
heterodoxical literature had emerged. Among this
literature, however, were numerous attempts to deal with
issues such as the separability of administration from
politics (or policy), the role and legitimacy of bureaucracy
and of administrators within the bureaucracy.

Waldo's The Administrative State (1948), which was
based on his 1942 dissertation[4], is the first, and most
important, comprehensive review of public administration as
theory. As such, it summarizes and critiques the prior

literature and attempts to identify the political theories that underlay American public administration.

Waldo found that public administration "has of course been conditioned in diverse ways by the peculiarities of our constitutional and political systems." (Waldo, 1984, p. 11). The unique American institutional framework, especially the American federal system and theory of separation of powers, created an urgent sense of need for integration and simplification. This led to problems in discovering "the proper division of function between public and private administration and of the proper relation between autonomous or semi-autonomous organizations and the state structure" (p. 11). The combination of institutional orientations imposed by our Constitutional and political structure with the nature of American social and business institutions created a context for an ideological framework that defined the nature of public administration.

The Administrative State critically, and effectively, attacked the orthodox public administration ideology, including that enunciated by Wilson that "the work of government is divisible into two parts, decision and execution, and that execution (administration) is or can be made a science" (p. 199). Nor was Waldo alone in noting the difficulties with the way that the field of public administration was framed. Morrison (1945), for example,

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noted that "the subject matter of public administration had been defined to leave a no-man's land of significant problems" (p. 85).

The "neat" division between politics and administration had been dissolved. Elimination of this boundary, however, left public administration theorists facing new problems. If decision and execution were not neatly severable, how could non-elected officials be reconciled with democratic ideals of representation and accountability? How could decisions that were not made by democratically elected officials be considered legitimate? If administrators did not have a clear-cut role defined by the dichotomy, then exactly what is the role of public administrators, and how should they act in fulfilling that role?

Waldo continued to be a leader in this literature, continuing to critique the Classical approach, especially the politics-administration dichotomy. He argued that such a dichotomy does not adequately describe reality, nor is it useful as prescriptive guidance (Waldo, 1977). Furthermore, he contended that public administration's adherence to a central principle of efficiency is incompatible with democracy (Waldo, 1952). Brian Fry summarized Waldo's views about public administration as follows:

> An important lesson of history, Waldo argues, is that
> the techniques of administration are at the center of
> the political-governmental evolution. Indeed, he

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maintains that government and administration are substantially equivalent. Administration "frames civilization" by giving it a foundation or stage and by providing a base for growth. In short, government qua administration and civilization are always intimately joined (Fry, 1989, p. 236)

Waldo's contribution to this literature has been much more that of a critical reviewer of public administration and organization theory, than as a builder of, or contributor to theory. Nevertheless, his contributions are quite important in that they provide effective criteria for any potential theory of public administration. Specifically, such theory must avoid any assumed distinction between politics and administration, must emphasize the equivalence of government and administration, and must reflect the intimacy of the interrelationships between government and society.

Early attempts to establish a legitimate role for administration in governance revolved around questions of accountability of non-elected administrators in a democratic society. Yet these attempts, although recognizing that politics and administration could not be entirely divorced in practice, continued to wrestle, indirectly, with the problem of how to frame them. Friedrich, for example, argued, on the one hand, that they are inseparable, while continuing, on the other hand, to *frame* them as distinct:

"Public policy . . . is a continuous process, the formation of which is inseparable from its execution.

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Public policy is being formed as it is being executed and it is likewise being executed as it is being formed. Politics and administration play a continuous role in both formation and execution, though there is probably more politics in the formation of policy, more administration in the execution of it. In so far as particular individuals or groups are gaining or losing power or control in a given area, there is politics; in so far as officials act or propose action in the name of public interest, there is administration (Friedrich, 1940, p. 225-226).

Carl Friedrich and Herbert Finer debated the legitimacy and role of public administration. According to Friedrich, the responsible administrator exercises broad discretion to anticipate political and technical problems, and to do everything possible to make the intent of legislation work, while recognizing that "Laws do not embody static and universal truths; they represent expedient policies that are subject to continuous change and must be so considered" (Friedrich, 1940, p. 237). Administrators must act out of a sense of the public good with little direct responsibility to the legislator. This type of behavior could not be enforced, but had to be elicited as responsible to "commonly felt needs and wants" (p. 241).

Finer, on the other hand, argued that democratic government was founded on three doctrines - mastership of the public, institutions to express that mastership, and a system of authority and power to insure obedience to the desires of the public. An administrator's idea that he was acting for the good of the public led to dangerous

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situations, as did any significant administrative

independence. Administrators, therefore, should be

hierarchically responsible to elected representatives, with

a clear path of accountability. "Political responsibility,"

according to Finer:

> is the major concern of those who work for healthy
> relationships between the officials and the
> public, and moral responsibility, although a
> valuable conception and institutional form, is
> minor and subsidiary (p. 275).

Finer, perhaps even more than Friedrich, cannot get

away from the dichotomous way of thinking about governance.

Government is an entity that is distinguishable from the

society in which it exists. Since government is (in effect)

a *machine*, its "functions" must be "steered" by elected

representatives (whose "function" is to "steer"). In this

way, there is a clear path of accountability from

administrators to the public. The only apparent link

between the "closed" system of government and the public is

via the Constitutional "design."

The Friedrich and Finer debate highlights the

unreconcilability of the problem. Politics and

administration, on the one hand, can not be unraveled, and,

on the other hand, cannot be reconciled except when

unraveled. On the one hand, practical administration

requires "political" decisions and actions. On the other

hand, elected representatives must maintain hierarchical

control of political decisions. On the one hand, the public

has to be in charge, but on the other hand, only non-

political public administrators (who cannot avoid making

political decisions) can be expected to act in the public

interest.

Nevertheless, attempts continued to be made to resolve

the issues, perhaps by defining "the bureaucracy" as a

fourth branch of government. Long (1952) traced the

doctrine that the role of the bureaucracy is "neutral

docility" to a combination of English constitutional history

and John Locke's political metaphysics. He argued that the

civil service, in terms of its origin, income level, and

associations, is far more democratic in character than

Congress. The civil service is

> likely to be more responsive to the desires and
> needs of the broad public than a highly selected
> slice whose responsiveness is enforced by a
> mechanism of elections that frequently places more
> power in the hands of campaign-backers than voters
> (Long, 1952, p. 70).

Agencies compare well with legislative committees in terms

of the public interest, he argued, and responsibility comes

from responsible institutions. They are equipped to learn

from their mistakes, and are organized to allow self-

correcting behavior. According to Long, our constitutional

theory should recognize and understand the working of public

administration and its rightful place as "our great fourth

branch of government."

The late 1960's and early 1970's produced a new round

of literature addressing the question of the role and

legitimacy of public administration, much of it reflecting

the new public administration "mood" that had recently

emerged (Charlesworth, ed, 1968; Marini, ed., 1971;

Stillman, 1973; Waldo, 1972), leading Ostrom (1974) to

declare an "intellectual crisis in American public

administration."

Ostrum argued that the intellectual crisis qualified as

a "paradigmatic crisis" as defined by Kuhn (1970). The

crisis, suggested Ostrum, related to Wilson's rejection of

the political theory outlined by Hamilton and Madison in The

Federalist. According to Ostrum:

> In rejecting The Federalist, Wilson was rejecting
> the theory which was used to articulate the design
> of the American political system. An appropriate
> theory of design is necessary both to understand
> how a system will work and how modifications or
> changes in a system will affect its performance.
> To use one theory of design to evaluate the
> characteristics of a system based upon a different
> theory of design can lead to profound
> misunderstandings. To use one theory of design to
> reform a system based upon a different theory of
> design may produce many unanticipated and costly
> consequences. A Volkswagon is not a Ford. To
> evaluate one by the design criteria of the other
> or to repair one by using the parts of the other
> would not be reasonable procedures. (Ostrum, 1974,
> pp. 101-102).

While crafting his argument in terms of clearly mechanistic
metaphors like "Volkswagon" and "Ford," Ostrum proposed
replacing Wilson's paradigm with a paradigm of "Democratic
Administration," that encompassed, among other things,
fragmented authority with multiple veto capabilities,
multiple, and overlapping jurisdictions of widely different
scales, and that would provide the "necessary conditions for
maintaining a stable political order which can advance human
welfare under rapidly changing conditions" (Ostrum, 1974, p.
112). Adoption of such a paradigm would lead to a system of
democratic administration that depended upon "ordered
complexity in social relationships."

More recently, Waldo (1987), noting that "Nothing is
more central in thinking about public administration than
the nature and interrelations of *politics* and
administration" (p. 91), argued that the problem arose
because of a "historical disjunction." Our concept of
government was caught between two different governmental
traditions, Greek and Roman, that caused problems of
congruence and communication. Public administration as a
field of study could not move forward unless some resolution
was found. He called for "a map showing conceptual-
theoretical developments" (p. 107), which would "help us
understand where we are and help us decide the direction in
which we can move forward. Given this, he concludes that

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public administration is "properly served by multiple
theories, perspectives, strategies, and roles, and by a
situational, pragmatic adaptation of means and ends" (p.
108).

Refounding Public Administration: A Constitutional Grounding

Others (Storing, 1981; Rohr, 1986, 1987, 1990) have
attempted to ground the legitimacy of the Administrative
State, and, consequently, of public administration, in the
Constitution, and the intent of the Founders. Rohr argues
that administrative institutions, while not specifically
addressed by the Constitution, are not inconsistent with its
principles, and that the civil service in general, and the
Senior Executive Service in particular, both correct defects
in the Constitution and fulfill some of the framers'
original intent for the Senate.

Rohr finds the role of the Public Administration to be:

> to fulfill the objective of the oath of office:
> to uphold the Constitution of the United States.
> This means that administrators should use their
> discretionary power to maintain the constitutional
> balance of powers in support of individual rights
> (Rohr, 1986:181).

Public administrators, argued Rohr, are the "balance wheel"
that (presumably) regulates the machine formed by Congress,
the president and the courts.

Rohr's argument is central to the "Blacksburg Perspective" (Wamsley, 1990) which seeks an institutional approach to understanding the role of public administration. Taking their legitimacy from the Constitution and their oath to uphold it, public administrators should take should use an Agency Perspective as their "gyroscope" around which they "must build a concern for broader public principles and values: in other words a concern for the public interest" (Wamsley, et al., 1990:37). An Agency Perspective, in turn, was that view of the public interest that emerged from the organizational learning, institutionalized knowledge, and institutional consensus as it applied to a particular societal function. Among the characteristics that The Public Administration would exhibit when seen from an Agency Perspective would be "prudent and reasoned attention to agency performance, one in which consideration is given both to the short *and* long-run consequences, qualitative as well as quantitative measures ,and one which rejects "the bottom line" as a slogan antithetical to good public administration" (Wamsley, et al, 1990; 38). Public administration was seen as part of the governance process - a combination of administration within a political context and competence in terms of the public interest (as opposed to "the bottom line").

Continuing the Quest: Lack of Consensus

White (1990) argued that public administrative action required a complementary mixture of authority and participation that effectively blended two competing control mechanisms for maintaining stability in an otherwise chaotic and disorderly society. The public administrator's role within The Public Administration is as facilitator of "effective social process" (White, 1990; 232) through the use of both authority and participative processes.

The creators of the "Blacksburg Perspective" conclude that the distinction between politics and administration has to be understood at three levels of meaning. At the most abstract level, public administration is an integral part of the governance process. At the practical, or empirical, level of meaning distinctions between political and administrative roles are made as a matter of course. Finally, at the prescriptive level of meaning, "the distinction between politics and administration is crucial if the public administration's role in governance is to be accepted as legitimate" (Wamsley, et al, 1992:73).

Some theorists have concentrated on establishing positive self images for public administrators. Terry (1990), argues that they should see themselves as "conservators" of governmental institutions, which are the repositories for values embodied in the Constitution.

According to Terry, calls for radical change in administrative leadership should be viewed with extreme caution because they encourage radical alteration in valuable institutions while ignoring the long-term effects of these changes on those institutions or on society in general. Administrative Conservators act to conserve institutional mission and to incrementally adapt the institutional economy to ensure that it conforms with larger societal values. Others have proposed that public administrators see themselves as "agential leaders" (Wamsley, 1990), or "stewards" (Kass, 1990).

Barth (1991) examined Rohr's "balance wheel" model from individual, institutional and situational perspectives and concluded that Rohr's basic model of constitutional subordinate autonomy provides a legitimate basis for exercise of administrative discretion, but is not helpful in telling public administrators what actions to take in specific circumstances.

Other recent literature on the role of public administration in governance includes Louise White's (1989) comparison of public choice and public administration theories. White proposes a third approach that combines elements of both theories. This approach emphasizes designing institutions and moving away from reliance on either market competition or hierarchical controls.

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Instead, it stresses creative and entrepreneurial management for registering preferences and encouraging responsiveness.

Cigler (1990) sees attempts at governance in the post-1960s as a "failed search for order" that overlooks or underplays significant realities of government structure and organization. These realities include the fact that discretion in the use of public authority and funds is shared among a large number of governmental and non-governmental actors, divided government, increased policy activism, the rise of legislative entrepreneurs and competition among state and local governments. Cigler suggested that public administration should be more pro-active in lobbying for the broad public interest.

Finally, some writers argue that no unified theory of public administration is possible. Rosenbloom (1983, 1989) traces conceptual problems in public administration to the constitutional separation of powers. This separation led to the development of public administration theory along three lines, corresponding to the three branches of government. These three strands cannot be meaningfully combined: a coherent theory of public administration is not possible. Krauveck (1992) argues that it is not the separation of powers that is the primary barrier to a unified theory, but tensions among three strands of American liberalism - minimalist, anarchist, and realist.

Conclusions: The Frame Continues

Contemporary theorists, convinced that the field was in a theoretical "dead end" have attempted to refound the field in an effort to redirect normative theory in new, and hopefully productive, directions. While this attempt may hold promise, doubt remains that any coherent theory of public administration is possible. The "Blacksburg Perspective" appears to have become a search for the "correct" positive self image for public administrators.

Although the refounding effort attempted by the Blacksburg Perspective meets the reasonable criterion of grounding in the Constitution, and is, perhaps, not incompatible with Ostrum's criteria for a paradigm of democratic administration, it is forced to express its view of governance in terms of a mechanistic metaphors, such as "balance wheel" and "gyroscope." While these metaphors are easily understood (and understandable ways to make a point) they limit the ability of theorists to deal with the extreme complexity of interrelationships that constitute governance in an information-driven society. This leaves the Blacksburg theorists struggling to clarify the distinctions between politics and administration at differing levels of meaning.

The "metaphorical" limitation on development of public administration theory is further suggested by concerns with

issues such as: stability in a chaotic society and facilitating social process (White, 1990), and a search for order (Cigler, 1990). Any adequate normative theory of public administration must explicitly address the issue of complexity.

CHAPTER 3

THE SYSTEMS-METHODOLOGICAL APPROACH

        *"Although there is a considerable area of
interchangeability among models, there is also a
considerable, and probably larger, area of non-
interchangeability. In many cases, certainly, the
choice of model is decisive; that is to say,
determinative of the type of questions asked and
the answers found. . . . Perhaps a fruitful
approach to resolving this conflict, or making it
more bearable and beneficial, would be to search
for models which do not pose the sharp
alternatives of traditional ones"* (Waldo, 1956, p.
47).

        *"Systems is a subject many people find
difficult to understand because they fail to
recognize its status as a meta discipline, a
subject which can discourse about the content of
other subject areas. . . . This status of systems
as an approach, rather than a body of knowledge,
means that there are potentially very wide limits
indeed to the area of application of systems
thinking. Any area of human inquiry could, in
principle, adopt a systems approach"* (Checkland,
1988, p.9).

This chapter develops the systems methodological

approach (actually, a meta-methodological approach) that is

used for the analysis performed in succeeding chapters.

After providing necessary background information, it

introduces a management science methodology known as Total

Systems Intervention, explains why the methodology can be

usefully adapted for use as a tool to analyze the problem of

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the legitimacy and role of public administration, describes
how that methodology will be adapted to the problem at hand,
and lays certain other groundwork necessary to the analysis.

The Systems Approach

The purpose of this section is to provide background
necessary for understanding the Total Systems Intervention
Methodology. It describes, in general, what the "systems
approach" entails, summarizes its history until roughly a
dozen years ago, defines and explains certain key ideas
whose understanding is essential to understanding the
discussion that follows, and describes recent developments
in systems thinking in the field of management science.

An Historical View of The Systems Approach

The systems approach, which embodies much of the
holistic thinking expressed by Lao-tse, Heraclitus, Leibniz,
Vico, Hegel, Marx, Whitehead, Driesch, and others
(Mattesich, 1982), traces itself formally to the work of
Bogdanov (1912, 1922) and Bertalanffy (1950a, 1950b, 1968).
According to Churchman (1979), man has (consciously or
otherwise) had a "systems approach" tradition since the
earliest times. It was Kant, however, who set the stage for
the current systems approach with the notion that the way
the world appears to our observation depends very much on

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our basic theory about the structure of the world. Part of
the systems approach, then, is to construct a theory of
reality as a guide in the observations that are made. But
these observations, in turn, guide the revision of our
theory of reality. The systems approach, involves
developing models (theories) of reality (or some particular
part of it) and attempting to use these models to understand
and influence that reality.

Key Concepts and Definitions

Several systems and systems-related concepts and terms
will be used throughout the remainder of this dissertation.
Although most such terms will be explained as the situation
arises, certain key concepts are defined here.

Without question, the most difficult concept to define
precisely, and meaningfully, is "system." This is
especially true because the precise meaning of the term
depends, in part, on the systemic metaphor one attaches to
the term. Put in the simplest possible terms, a system is a
group of elements and the relationships between them.
Several related concepts are necessary to an understanding
of the concept "system," including: element, relationship,
boundary, input and output, environment, and feedback.
Flood and Jackson (1991) elaborate on the systems concept as
follows:

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A system consists of a number of elements and
the relationships between the elements. A richly
interactive group of elements can be separated
from those in which few and/or weak interactions
occur. This can be achieved by drawing a boundary
around the richly interactive group. The system
identified by a boundary will have inputs and
outputs, which may be physical or abstract. The
system does the work of transforming inputs into
outputs. The processes in the system are
characterized by feedback, whereby the behavior of
one element may feed back, either directly from
another element by way of their relationship, or
indirectly via a series of connected elements, to
influence the element that initiated the
behavior.(Flood and Jackson, 1991, pp. 5-6.)

A system whose boundary does not allow interchange to

and from its environment is termed a "closed" system, and a

system whose boundary does allow such interchange is called

an "open" system. An "autopoietic" system (Varela et al,

1974; Maturana and Varela, 1980; Zeleny, 1981) is a "closed

suprasystem" that contains internally all of the information

and structure needed for its own self-generation,

development and maintenance. Such a system is "closed" in

the sense that it "includes" its environment with no

apparent inputs and outputs. It may do this through changes

in its constituent parts.

A system sustains its identity by maintaining itself in

a steady state despite changes in its environment. Such a

steady state, called homeostasis, is dynamic in that all the

system's constituent parts may have to adapt or change

continuously to maintain homeostasis. A system that is

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maintaining its identity and whose transformation processes are stable over time, despite changes in the environment, is said to have some form of control mechanism(s). A system that is carrying out a transformation is called "purposive; and if the purpose is internally generated, it is called "purposeful" (Flood and Jackson, 1991).

Systems are generally seen as occurring in hierarchies. According to this perspective, any system may be considered to be a sub-system of a wider system. The constituent parts of any system may also normally be seen as sub-systems which are themselves systems. A stable system with an identity may exhibit emergent properties, which are properties that relate to the whole system, but which are not necessarily properties of any of the constituent parts (Flood and Jackson, 1991).

Modern Systems Thinking in Management Science

The field of operations research and its direct descendant, management science, has fostered a systems approach since its inception. The Total Systems Intervention (TSI) methodology, which comes from this field, is a product of considerable evolution and development in systems thinking in management science. To understand the significance of the TSI methodology, it is necessary to have some understanding of recent developments in that field.

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Initially, systems theories were drawn from the physical

sciences, as has been the case with the social sciences.

These "hard" systems approaches can be characterized

epistemologically as positivistic and as consistent with the

functionalistic sociological paradigm. Hard systems

methodologies tend to be of very limited use when extended

to social systems for which objectives are problematic.

During the 1970s this traditional systems view came to be

recognized by many management scientists as unable to deal

with ill-structured and strategic problems

The First Epistemological Break

Criticism of systems theory and methodologies led some

theorists to search for alternative views. This search was

driven, at least partly, by the reaction of social science

to the re-examination of sociological "paradigms" ignited by

authors such as Berger and Luckman (1966), Kuhn (1970), and

Burrell and Morgan (1979). Burrell and Morgan noted that:

systems theory is consistent with theoretical
perspectives which extend beyond the confines of the
functionalist paradigm. However, these remain largely
undeveloped at the present time (p. 49).

Perhaps partly in response to this statement, some systems

theorists began to consider other sociological paradigms.

Checkland (1972) presented "a general methodology which

uses systems ideas to find a structure in apparently

unstructured 'soft' problems, and hence leads to action to eliminate, alleviate or solve the problem, or provides an orderly way of tackling 'hard' problems" (p. 87). By "soft systems," Checkland referred to systems whose objectives are hard to define, where decision-taking and the probable results of decisions are uncertain, where measures of performance are qualitative at best, and wherein human behavior is often irrational.

Soft systems thinking was the result of merging "hard" systems thinking and Action Research into a methodology for tackling unstructured problems. Checkland argued that systems engineering and systems analysis arose as ways of bringing systematic rationality into engineering and defense problems. However, such "hard" systems thinking became problematic when applied to the "soft" systems involved in policy analysis. This led Checkland to a "paradigm shift" from functionalism to an interpretive view based in phenomenology and hermeneutics. This epistemological break, in turn, stimulated him to adopt and develop a methodology consistent with his new point of view, which he termed Soft Systems Methodology. Soft systems methodology involves six stages: 1) an urge to improve a social system; 2) a tentative definition of systems relevant to improving the problem situation; 3) development of conceptual models of these systems; 4) use of systems thinking to improve the

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conceptual models; 5) comparison of the conceptual models
with "what is" in the real situation, and use of the
comparison to define desirable, feasible changes in the real
world, and 6) implementation of the agreed changes.

Criticism of soft systems thinking came, however, not
from the hard systems world, but from an even more radical
group - critical systems thinkers. Among the criticisms was
the contention that soft systems thinkers assume a social
world in which consensus and willing participation
predominate. Because of this assumption, soft systems
thinkers, it was argued, confine their projects to projects
involving a community sharing common interests that has the
power to impose agreement on any other groups involved. The
essence of the criticisms is that soft systems thinking, as
with hard systems, has a limited domain of effective and
legitimate application. Both Ackoff and Checkland have
responded strongly to the critiques of their methodologies.

The Second Epistemological Break.

In the 1980's a break with "soft" systems thinking
occurred and "critical" systems thinking began to emerge.
Taking note of Burrell and Morgan's (1979) suggestion that
systems theory is not intrinsically tied to any specific
view of social science, Jackson (1985), initiated a second
epistemological break by arguing the need for critical

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systems theory. Jackson, starting with an account of the
scientific method, showed the difficulties in applying
scientific method in social systems science. He concluded
that "hard" systems theories are only rarely applicable to
social systems. "Soft" systems methodologies, while an
important advance on hard systems approaches, also have a
restricted domain in which they can be successfully used.
He argued that a social systems science approach based on
the critical theory of J. Habermas was necessary for the
apparently contradictory nature of certain types of social
system to be understood and successful practice to result.
Habermas (1974) argued that three functions are the key to
mediating theory and practice. The first function is the
formulation of explicit theories about the social world,
which must meet the usual rules of scientific discourse.
Next, the knowledge produced by these theories must be
authenticated by the social actors at which the theories are
aimed. Such authentication has occurred only if those
actors recognize the theories as descriptive of their
situation, and, as a result, they achieve self-
understanding, or enlightenment. Finally, once
enlightenment is achieved, a rational consensus can be
reached as to an appropriate strategy for practice. Jackson
(1985) argued "the need for a critical approach to social
systems theory and practice" and urged the "detailed working

out and development of all three functions outlined by Habermas.

Systems science was soon faced with a variety of methodologies, based in different paradigmatic views of the world. Jackson & Keys (1984) proposed a "system of systems methodologies" in answer to an apparent "crisis" in operations research caused by different and apparently competing problem-solving methodologies. Diversity of methodologies should be encouraged, they argued, each with a defined area of competence. Different methodologies should be evaluated in pragmatic terms - their success in solving problems for which they are best suited. They should not be evaluated by comparison with each other. This required, they argued, both theoretical work to better understand the problem-context assumptions of each methodology, and practical work to evaluate the success of each methodology in its own area. They rejected General Systems Theory as a source of theoretical support, and turned instead to the social sciences, suggesting that the framework of sociological paradigms suggested by Burrell and Morgan (1979) might be a useful starting point for identifying and understanding problem contexts.

Flood (1990a, 1990c, 1991) extended the "system of system methodologies" concept by proposing an approach based on what he calls Complementarism. Complementarism proposes

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that sciences are forms of possible knowledge that are
theoretically commensurable. Methodological rules, on the
other hand, have different domains of application, and are
"distinct," thus incommensurable. This view leads to
critically self-reflective approaches to methodology.
Borrowing directly from Habermas, Flood argues that human
interests can be divided into technical, practical, and
emancipatory interests. Technical interests are best served
by positivist approaches, practical interests by
interpretive approaches, and emancipatory interests are best
served by critical approaches still emerging.

Jackson (1990), in turn, drawing on the results of his
own research and thinking from Ulrich (1988) and Flood
(1990), proposed a program of critical management science
with the following intentions:

> (i) to reveal and critique the theoretical (ontological
> and epistemological) bases of earlier management
> science approaches;
> (ii) to reflect upon the problem-situations in which
> earlier approaches can properly be employed and to
> critique their actual use;
> (iii) to develop management science beyond its present
> limitations and, in particular, to facilitate the
> emergence of new methodologies to tackle problem-
> situations where the operation of power prevents the
> proper use of soft systems thinking;
> (iv) to reflect upon the relationship between different
> organizational and societal interests and the dominance
> of particular management science methodologies and
> techniques;
> (v) to provide practically useful, theoretically sound
> approaches to problematic situations, which will assist
> in the larger project of progressive social change. (p.
> 667).

Critical systems thinking involves five major commitments. "It seeks to demonstrate critical awareness; it shows social awareness; it is dedicated to emancipation; it is committed to the complementary and informed development of all the strands of systems thinking at the theoretical level; and it is committed to the complementary and informed use of systems methodologies" (Jackson, 1991, p. 184-5). It seeks to provide tools for enhancing critical awareness of the assumptions and values influencing existing or proposed systems designs. It also seeks understanding of the strengths, weaknesses, and theoretical underpinnings of systems methods, and techniques.

A "complementarist" systems approach which is theoretically commensurable at a meta-level, although methodologically incommensurable, is "the only acceptable scenario for the future of systems 'problem solving'" (Flood, 1990, p. 183).

Total Systems Intervention

A methodology (or meta-methodology) based in critical systems thinking and the system of systems methodologies has been developed and used by Flood and Jackson (1991). This approach, which they call Total Systems Intervention (TSI) combines three building blocks - system metaphors, "system of system methodologies," and individual methodologies - in

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an interactive manner that they claim is particularly

powerful and fruitful. The TSI methodology involves seven

principles. First, organizations are understood to be so

complex that no one "model" can possibly lead to

understanding, and no "quick fix" is likely to resolve their

problems. Second, organizations should be investigated

using a range of metaphors. Third, systems metaphors which

appear to be appropriate for highlighting organizational

strategies and problems can be identified with specific

systems methodologies, and these methodologies can be used

to guide intervention in the organization. Fourth,

different systems metaphors and methodologies can be used to

address different aspects of organizations and their

problems. This use can be done in a complementary manner,

despite differing onto-epistemologies that are identified

with different metaphors and methodologies. Fifth, the

strengths and weaknesses of different systems methodologies

can be appreciated and related to appropriate organizational

concerns. Sixth, TSI involves a systemic cycle of inquiry

with iteration back and forth among three phases. Finally,

the methodology makes heavy use of facilitators, clients and

others through all stages of the TSI process.

Use of the TSI methodology involves three phases. The

first phase, *Creativity,* uses systems metaphors as

organizing structures to help managers think creatively

about their enterprises. The second phase, *Choice*, selects
one or more appropriate systems-based methodologies as a
means of intervention into the organization. This
methodology is selected to suit particular characteristics
of the organization as suggested by the creativity phase.
The third phase, *Implementation,* makes use of a particular
systems methodology (or methodologies) to translate the
organization's dominant vision, its structure, and the
general orientation suggested by the underlying systems
metaphor into specific proposals for change.

Summary

This section has provided an historical summary of
systems thinking, especially as it has developed in
management science during recent years. The section has
also introduced the Total Systems Intervention methodology
as it is used by management scientists for intervention into
organizations.

It should be clear from the foregoing paragraphs that
management science has undergone a period of self
examination of its ability to deal with exceedingly complex
social problems, which has led to systems approaches based
in a variety of epistemological perspectives. As a result,
systems approaches that are closely allied with, or related
to, major sociological "paradigms" have emerged and begun to

produce a repertoire of methodologies that can be applied to a variety of problematic situations. It is this modern systems approach, based in complementarism and the Flood and Jackson system of systems methodologies that forms the background for the Total Systems Intervention methodology.

A Systems-Methodological Approach to the Problem

This section develops a systems-methodological approach toward analysis of governance and the role of public administration. It starts by describing how systems metaphors influence, and color our view of the world. Next it discusses the applicability of the TSI methodology to the problem at hand, and develops a modified version of the TSI methodology that is adapted to the desired analysis.

System Metaphors

The systems perspective is an attempt to organize and understand the complexity of the world. The concept of "system", although we may not consciously use the term, is deeply ingrained in the way we view the world. We divide the world arbitrarily into "systems" - quarks, atoms, molecules, machines, organisms, intelligent organisms, individuals, groups, institutions, cultures, societies, humanity, oceans, atmospheres, gaia, planetary systems, galaxies, universes, and an unlimited number of other

aggregations of interacting "somethings." Every "thing" that we think about is both a system and a component of a higher system.

Everyday life is also pervaded by metaphor (Lakoff and Johnson, 1980). Language, especially the ability to form abstractions, is built upon metaphor, and our understanding of the world is colored and influenced by metaphors, which are essential to understanding abstract concepts. Even such seemingly simple and contentless qualities as emotions have extremely complex conceptual structures (Lakoff, 1987). Anger, for example, is often referred to in terms of a conceptual metaphor whose source domain is "the heat of fluid in a container," and whose target domain is "anger." Lakoff demonstrates that the correspondences between these domains are both ontological and epistemic. This and other metaphors converge to form a prototypical cognitive model of anger. There is, however, no single model of anger, but rather, a whole category of such models centered on the prototypical model.

The importance of metaphor to thinking is, perhaps, greatest when we attempt to understand the exceedingly complex interactions of physiological and neurological processes that comprise human beings. This complexity is further compounded when large numbers of these beings interact with each other as they form organizations,

governments, and other social institutions. The attempt to understand and influence social complexity has given rise to the use of simpler systems-oriented metaphors. Our social and political realities are deeply influenced by such metaphors.

The predominant systems metaphor, in use at least since the Reformation, is the machine metaphor, based in the idea that social institutions are analogous to machines. Such social "machines" have been seen (if only unconsciously) as deterministic and predictable entities that are susceptible to "design" and "engineering." In more recent times, organismic metaphors have emerged, leading to concepts of social "organisms" that are born, grow, struggle for survival, and die. Each different systems metaphor, when applied to a target domain that involves a social institution, such as government, represents a different source domain. Our thinking, much like Lakoff's "anger" example, may involve several such source metaphors combined to produce a prototypical systems model which underlies our cognitive model of that institution. While several systems metaphors may be present in that prototypical model, the relative dominance, or absence of particular systems metaphors will lead to substantially differing prototypical models.

The emerging understanding of chaotic systems and nonlinear complexity theory, for example, gives strength to the idea that, while physical and biological systems can be identified with underlying, or "deep" structures, they cannot always be understood in a deterministic sense. While such systems may be deterministic in principle, it is impossible to predict their long-term behavior (see, for example, Hilborn, 1994; Kauffman, 1993). The "chaotic systems" metaphor is emerging as another way to attempt understanding of social systems (e.g. Nicolis and Prigogine, 1989; Waldrop, 1992; Lewin, 1993; and Wheatley, 1992). Thus, a new prototypical conceptual model is available based in a dominant "chaotic" systems metaphor.

Perhaps the most influential recent reporter of the influence of systems metaphors on organization theory and advocate of the use of a variety of metaphors for understanding organizations has been Gareth Morgan (1982, 1986). Morgan (1982), citing previous work by Emery and Trist, points out how thinking based in the traditional mechanical metaphor typifies the bureaucratic approach to control. As complexity and turbulence in the environment increases the need for control mechanisms increases along with controls for the control mechanisms, and so on, until the whole process becomes impossibly unwieldy. The rise of regulatory organizations as a major portion of the public

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sector of all modern societies can be seen as an attempt to deal with the complexities of society from the perspective of a mechanical metaphor at the level of governance. According to Morgan, "The bureaucratic, control-oriented ethos which underlies the drive to overcome problems through a redundancy of parts, is not well equipped to deal with conditions of turbulence" (p. 529).

An alternative way to deal with the problem, Morgan argues, is to reduce the formation of chaotic changes in the environment, rather than to attempt to control them after the fact. This can be done by somehow achieving greater consensus on values, thereby making collaboration and collective action more likely and reducing the turbulence caused by uncertainty and unilateral action. Such an approach would be similar to the way in which cooperating organisms manage to shape their environments, rather than simply to respond to them. This line of thought leads Morgan to the suggestion that non-mechanistic metaphors, such as ones based on ideas of "organism," or even of "brain" can offer useful ways to frame our thinking about how to deal with complex, turbulent, chaotic environments.

Morgan (1986) developed the idea that different metaphors could provide useful aids to reading and understanding organizations, given the premise that theories about organizations are based on metaphors that lead to

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distinctive but incomplete understanding of organizations. "The use of metaphor implies *a way of thinking* and *a way of seeing* that pervades how we understand our world generally" (Morgan, 1986, p. 12).

Morgan suggests that organizations can be seen as "machines," "organisms," "brains," "cultures," "political systems," "psychic prisons," "flux and transformation," or as "instruments of domination." No one metaphor can give us full understanding of all the ramifications of a situation, for each one focuses on one interpretation to the relative minimization of other possible interpretations. The use of different metaphors gives us the ability to gain insights into organizational life that we otherwise would not have had.

Each systems methodology can be closely identified with one or more of Morgan's "organizational metaphors," and with one of Burrell and Morgan's sociological paradigms. The idea behind the Total Systems Intervention methodology and Flood's "complementarist" position is that it is possible to select and apply methodologies based in a variety of sociological paradigms provided an epistemologically adequate "critical" approach is used. Complementarism supports Morgan's argument that each of the systems metaphors provides a explicit, but incomplete, insight into the "real" world of organizations, or social institutions,

and the TSI methodology provides a tool for examining which metaphors have influenced our view of the organizational world, and for eliciting new insights based in other metaphors.

Developing A Methodology

Chapter 1 has hypothesized that the "problems" of public administration theory relating to the legitimacy and role of public administration are related to, if not artifacts of, the way that theorists tend to think about the process of governance, and that this way of thinking involves the use, consciously, or otherwise, of systems metaphors. What is required, in order to "test" this hypothesis, is a methodology that offers an organized approach to analysis of the systems metaphors suggested by the various historical "schools" of normative public administration theory, and a method for "narrowing" our thinking in order to examine the implications of one metaphor for public administration.

The requirement is complicated by the fact that different schools of normative theory are based in differing ontological and/or epistemological assumptions, which may, in turn, relate closely to the systemic assumptions embedded in the theory. Any analysis, therefore, must be approached from a viewpoint that assumes that the theories are not

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inherently incommensurable. The complementarist position
holds that no one paradigm can make all phenomena
meaningful, nor can one methodological approach be adequate,
thus all paradigms and approaches are potentially useful
provided that they are selected critically and openly. The
TSI methodology, which is based in a complimentarist
position, provides a meta-methodology that can be adapted to
meet these requirements.

The TSI Methodology

Flood and Jackson's TSI methodology bases itself in use
of the systems approach not as a means to refer to things in
the world, but as a way of systematically organizing
conceptions about the world. To insure that systems are
viewed as abstractions, and not as the "real world," systems
metaphors are used as selective filters with which to "view"
a system.

The methodology uses five such systems metaphors, each
of which has its own distinctive advantages and
disadvantages as a filter. The machine metaphor, or "closed
system" view can be useful when the required task is
straightforward, when "human parts" are prepared to follow
machine-like commands. On the other hand, the machine
metaphor is problematic where human beings are involved.

The organic metaphor, or "open system" view is useful
when responsiveness and change are important, and/or the
environment is complex. It neglects, however, the fact that
organizations are social constructs that must be understood
from the viewpoint of the people within them. It also sees
change as externally generated, and thus fosters a sense of
passive adaptability, rather than proactive control.[5]

The neurocybernetic or "brain" metaphor, which is a
"viable system" view, is useful where there is considerable
uncertainty. It promotes self-inquiry and self-criticism,
leading to learning and dynamic goal seeking. It also fails
to recognize that organizations are socially constructed,
and ignores the fact that the parts of an organization may
not have the same purpose as the whole.

The culture metaphor, which considers the familiar ways
of thinking and acting that characterize an organization,
shows that organizational life is only rational in terms of
that organization's culture. The culture view, however, may
foster attempts at ideological control, and does not offer
suggestions on how complex organizations should be
structured.

Finally, the political metaphor considers relationships
between individuals and groups to be competitive and to
involve the pursuit of power. This view highlights

organizational activity as interest based. It emphasizes the role of power in determining organizational outcomes, and suggests that disintegrative strains and tensions counterbalance the functionality and order suggested by other systems metaphors. On the other hand, an explicit acknowledgement of a political situation may lead to its further politicization and increase mistrust.

The TSI methodology, as proposed by Flood and Jackson, is conduced in three phases. The first, creativity, phase uses systems metaphors to help managers think creatively about their organizations, using the five systems metaphors (machine, organism, brain, culture, and politics) as tools for this process. The expected outcome from this phase is identification of a "dominant" metaphor that characterizes the main interests and concerns and that becomes the basis for an appropriate intervention into the organization.

The next phase, "choice," selects an appropriate systems-based intervention methodology to suit the situation revealed by the "creativity" phase. The tools available for this selection are "a system of systems methodologies," (Jackson and Keys, 1984; Flood and Jackson, 1991) together with knowledge of the underlying metaphors that are identified with each of the available systems methodologies.

The final phase of the TSI methodology, "implementation," makes use of the systems methodology

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selected in the previous phase to generate specific proposals for change. The process, however, is systemic and iterative, in that each phase refers continually back and forth to consider the likely outcomes of other phases. The whole process, therefore, tends to be circular.

Adapting the TSI Methodology

The TSI methodology possesses several characteristics that make it advantageous as a tool for an analysis of the impact of systems metaphors on theories about the legitimacy and role of public administration. First, it directly addresses the issue of systems metaphors. Second, it assumes the complementarist position that the various "schools" of public administration theory are not incommensurable because they may be based in different sociological paradigms. Finally, it offers a means for selecting an appropriate systems methodology, based in a desired systems metaphor, that may be used as a tool for investigating the implications of that metaphor for public administration theory.

The TSI methodology, however, was developed as a means for addressing a problematic situation in a particular organization. As such, it is not appropriate in its original form for the analysis performed herein, and has been adapted, or modified, for use in the chapters that

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follow. The following paragraphs describe the "adapted" TSI methodology that is used in the remainder of this project.

The adapted methodology retains the original three phases: *creativity, choice,* and *implementation*. The *creativity* phase examines idealized positions of the various "schools" of public administration theory to determine the systems metaphor that seems to best represent the embedded systemic assumptions that are made about government and the process of governance. This is done through a two-way, iterative process of examining selected examples from writings that characterize that school, and dissecting the theories about the legitimacy and role of public administration that are advanced by each school to ascertain the systemic assumptions that those theories imply. Having first characterized each of the major "schools" as based in a dominant systems metaphor, all of the various potential systems metaphors are examined in terms of their potential to lend insight into the question of the legitimacy and role of public administration, and one such metaphor is selected as most likely to prove useful.

The *choice* phase relies heavily on "a system of systems methodologies" to select an appropriate methodology based in the selected systems metaphor. This phase, which relies heavily on the TSI methodology as developed by Flood and Jackson, uses several criteria in the selection process. In

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addition to the criterion that the selected methodology be based in the desired systems metaphor, it should support a preferred ontological and epistemological stance, and meet criteria related to the problem complexity and context.

The final phase, *implementation*, consists of using the methodology selected in the *choice* phase as a tool for examining the question of the legitimacy and role of public administration. This is done by first applying the methodology to the "problematic situation" represented by our desire to further understanding of the role of public administration in the process, or system, of governance. The results of that application of methodology are then combined with our general understanding of the implications of the selected systems metaphor to, first, examine, and then to "reframe" our conception of legitimacy and role of public administration in terms that are representative of the desired metaphor.

Summary

This section has developed a systems-methodological approach to the problem of the legitimacy and role of public administration in the system of governance. It has argued that systems metaphors are embedded in our understanding of organizations or social institutions, and explained how the Total Systems Intervention methodology is conceived as a

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means for examining organizations in terms of those underlying metaphors, and for using metaphors as filters to allow the consideration of specific aspects of an organization. Such a method insures that those aspects are viewed as abstractions, without any assumption that they represent "reality." Finally, the TSI methodology has been modified to adapt it for use in the analysis to be performed in the following chapters.

Structuralism: Adopting an Ontological and Epistemological Stance for the Analysis

Before beginning the analysis of governance and the role of public administration, it is necessary to attend to one more preliminary detail. In accordance with the complementarist position adopted by the TSI methodology, it is important to explicitly state the ontological and epistemological stance that is seen as most appropriate to the problematic situation to be analyzed. The purpose of this section is to argue that a "structuralist" perspective provides a distinct and important (but not unique) philosophical basis for understanding the process of governance in society and the role(s) that public administration has to play in that process.

Flood's (1990a, 1990b) "complementarism" grounds the Total Systems Intervention methodology. Flood, drawing on

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Foucault's Interpretive Analytics and Habermas's concept of knowledge-constitutive interests, concludes that "free-floating, neutral and independent truths," are impossible. Starting with the fact that each sociological paradigm involves a different rationality he proposes an epistemology involving a critically motivated quest for comprehensiveness. He, then, applies this epistemology to consideration of the term "system," which, Flood argues, has been so broadly applied that it is meaningless. He strives to alleviate this by showing that system notions are both abstractly rich and full of paradigmatic content. At a practical level, the complementarist approach implies that there are many different systems approaches, and that each has its strengths and weaknesses. No systems approach can be favored over another, despite its underlying paradigmatic assumptions, except in terms of its practical usefulness in a specific circumstance.

Consistent with that quest for comprehensiveness, we must acknowledge that no paradigmatic stance can be accepted as representing the "real" world represented by our theories of governance and public administration. Indeed, part of the purpose of using systems metaphors as filters with which to view public administration theory is to emphasize that each theory about public administration represents a set of abstractions, and not reality as such. Nevertheless, some

ontological and epistemological stances would appear to be
of more practical use for particular situations than for
others. For this reason, a preferred stance, structuralism,
is adopted here for use both as an ontological and
epistemological position from which to conduct the systems-
methodological analysis of governance and the role of public
administration.

The Structuralist Perspective

A view of physical reality and complexity has been
emerging within the physical sciences that questions the
distinction between observer and observed, suggests that all
of the physical world is intrinsically interconnected,
undermines our concepts of positivistic determinism, and
concludes that even chaos can reveal an underlying
structure, or order. This view provides strong support for
a concept of social and physical reality that is represented
by a "structuralist" paradigm.

Structuralism is a general approach toward
understanding and explaining phenomena. The key to the
approach is a commitment to dig beneath observed phenomena
and construct models that represent an assumed underlying
organization. Structuralists argue that phenomena must be
studied as a system - an organized set of interrelated
elements - and not broken down into individual elements and

studied atomistically. They attempt to identify the structure that underlies the observable social reality. Both individual and scientific knowledge, in the structuralist view, involves two components: property description and relation description (Riegel and Rosenwald, 1975).

Burrel and Morgan (1979) identify four sociological paradigms. Among those four, they classify an objectivist approach to social science as involving ontological realism and epistemological positivism, which Burrell and Morgan identify as the "functionalist" paradigm. There is, however, another possible objectivist paradigm that combines ontological realism with epistemological realism - a structuralist paradigm (Jackson, 1991).

The realist view holds that an answer to the question of why something occurs requires that we show *how* a new state of affairs is produced as a result of an event or change. To do so, we must describe how this initial event induces responses in existing structures and mechanisms - which implies that we must discover *the nature or essence* of those underlying structures and mechanisms. From the realist perspective, the main purpose of scientific theories is to permit causal explanations of observable phenomena, and to give insight into the regular relationships between phenomena. Such theories must describe the underlying

structures and mechanisms that constitute the causal

processes (Keat and Urry, 1982).

Realists, claim Keat and Urry, reject the idea that

theories can be produced through an inductive process that

moves from specific observations to generalizations about

observed phenomena, because such inductive arguments cannot

support a move from observable phenomena to the unobservable

structures and mechanisms that explain them.

> ... many of the hypotheses introduced by realists
> are of an existential kind. That is, they
> postulate the existence of entities that have not
> been observed, and may not be open to any
> available method of detection. Examples of such
> existential hypotheses are the postulation of the
> existence of viruses, of various sub-atomic
> particles, or of magnetic fields (Keat & Urry,
> 1982; p. 35-6).

Realists also reject the positivist's use of a

verificationist theory of meaning, which holds that the

method of verification of an empirical statement *is* the

meaning of that statement:

> So, for the positivist, in providing
> correspondence rules that link theoretical terms
> to test procedures and their observable results,
> we are gaining the meanings of those terms, and
> thus of statements containing them. But the
> realist rejects this theory of meaning. Instead,
> it is maintained that the meanings of theoretical
> terms can be understood independently of the
> construction of test procedures which enable us to
> verify indirectly the presence or absence of the
> items referred to by these terms (Keat & Urry; p.
> 38-9).

Substantial support to theoretical, or epistemological,

realism at both the natural science and social science

levels is provided by recent advances in thinking generally

known as "the sciences of complexity," or "chaos theory."

> The science of Complexity teaches us that the
> complexity we see in the world is the result of
> underlying simplicity,' said Chris, 'and this
> means two things. First, that you can view the
> simple systems that underlie it all as being
> creative, ... And second, because simple
> systems generate complex patterns, we really do
> have a chance of understanding those patterns. We
> have a chance of finding simple models that
> explain the creativity we see. . . . . I think
> what we have is an insight into the underlying
> dynamics of everything' (Lewin, 1992, pp. 190-
> 191).

Realist, or structuralist, approaches aimed at

understanding the underlying structures and mechanisms of

phenomena have appeared in the fields of evolution (e.g.,

Webster & Goodwin, 1982; Kaufman, 1993), the physical

sciences (e.g., Bohm, 1957; Feynman, 1985; Prigogine, 1980;

Nicolis & Prigogine, 1989), psychology (e.g., Abraham, et

al, 1990; Guastello, 1987, 1992), psychiatry (e.g.,

Goldstein, 1990), organizational development and management

theory (e.g., Goldstein, 1988, 1991; Leifer, 1989; Nonaka,

1988, Preismeyer, 1992; Senge, 1990), and economics (e.g.,

Anderson, et al, 1988).

The Legitimacy and Role of Public Administration as a
Structuralist Problem

The problem of legitimacy and the role of public
administration in government can doubtless be seen from the
perspective of a variety of ontological and epistemological
assumptions. The particular hypothesis proposed in Chapter
One, however, is that the way we think about governance as a
system has led to unsatisfactorily dichotomous theories. It
is, in other words, a hypothesis about the underlying
framework, or structure, of public administration theories.
The task to be undertaken herein, is to analyze that
framework and propose an alternative one. The problem
statement, then, has been cast in structuralist terms from
the start.

The argument has been adopted, already, that metaphors
both structure the way we think about things, and represent
underlying characteristics of the things we think about. It
has been seen that this is true even in the case of
intangible "things," like anger. Our concern is with the
effects of systems metaphors on theory, when those
underlying metaphors (e.g. machines, organisms, brains) are
suggestive of structural properties.[6]

Moreover, our concern is with an organization (or
supraorganization), government, and the role, or function,

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that is played in that organization by a specific

classification of "things" -- public administrators. The

underlying structural characteristics of government and

public administration seem to be of particular pertinence to

this analysis, especially in view of the "structuring" role

of the Constitution and its system of assigning specific

roles and responsibilities to various "branches" of

government.

A structuralist perspective, while not the only

possible perspective, is consistent with the problematic

situation to be analyzed. This is fortunate (and, perhaps,

unsurprising) since the problem has been cast in

structuralist terms from the start.

Summary

This section has described, briefly, a "structuralist"

sociological paradigm, based in ontological realism and

epistemological realism. Such a structuralist perspective

underlies the analysis to be performed, and is not

incompatible with the problematic situation represented by

the legitimacy and role of public administration in the

governance system.

Chapter Summary

This chapter has laid the necessary groundwork for the

analysis to be conducted in the succeeding chapters. It has

introduced a systems meta-methodology, Total Systems
Intervention, with characteristics that particularly lend
themselves to the desired analysis, and has delineated
certain modifications to the TSI methodology to adapt it
directly to the purpose at hand.

The chapter has also laid other groundwork. First, in
the course of describing the applicability of the TSI
methodology, it has described the key role that metaphors
play in our understanding of the world, and has described
certain pertinent characteristics and limitations of the
five systems metaphors that will be considered in the
analysis. In addition, it has openly adopted a
structuralist perspective as representing a preferred
ontological and epistemological stance from which the
analysis will be pursued.

Notes to Chapter 3

4. The dissertation was titled: <u>Theoretical Aspects of the American Literature of Public Administration</u>.

5.   Sir Geoffrey Vickers (1983) argued that human systems must be distinguished from both man-made (machine) and ecological (organic) systems. They differ from organic systems in that they include "a not always beneficent element of design, which in turn implies partly tacit criteria of success," (Vickers, 1983, p. 174). They differ from machine systems in that they include an element of judgement. Human systems are different, according to Vickers, "The essence of a human system is that it is composed of human beings who bring it into being by their actions and their experiences" (Vickers, 1983, p. 175).

6.   Even "culture" and "politics" metaphors have structural implications. Politics, for example, is often thought of has having to do with power "structures." Similarly, culture, can be thought of as the underlying "structure" of society.

CHAPTER 4

AN ANALYSIS OF SYSTEMS METAPHORS, GOVERNANCE, AND PUBLIC

ADMINISTRATION

> "The questions that I want to raise in this
> discussion are these: What models -- or _analogies_
> or _idioms_ -- have been used in the study of
> administration, especially _public_ administration?
> What are the typical products, uses, and
> limitations of the various analogies and idioms?
> To what extent are the various models
> interchangeable or uniquely insightful? Are there
> useful models yet undiscovered? Note that I say I
> want to _raise_ these questions; I do not claim to
> lay them to rest" (Waldo, 1956, p. 26).

> "In attempting to study the nature of change,
> it is necessary to move to an analysis of change
> at the level of what Russell and Whitehead (1913)
> describe as a higher "logical type." This switch
> in frame of reference promises to make a major
> contribution to organization theory in the future.
> An understanding of the deep structure of
> organization and an ability to reframe the
> problems in ways that overcome existing
> contradictions also depend on creating a similar
> switch in perspective" (Morgan, 1986, p. 376).

This chapter considers the systems metaphors that

underlie thought about the American system of governance,

examines the impact of these metaphors on our understanding

of the legitimacy and role of public administration, and

explores the potential applicability of other metaphors.

The analysis follows the adapted Total Systems Intervention

(TSI) methodology developed in Chapter Three. The TSI

methodology, which was developed as a means for creatively applying a range of systems metaphors to thinking about organizations and their problems, involves three phases: *creativity*, *choice*, and *implementation*. This chapter undertakes the first of those three phases (see Figure 4.1); it uses systems metaphors as organizing structures to
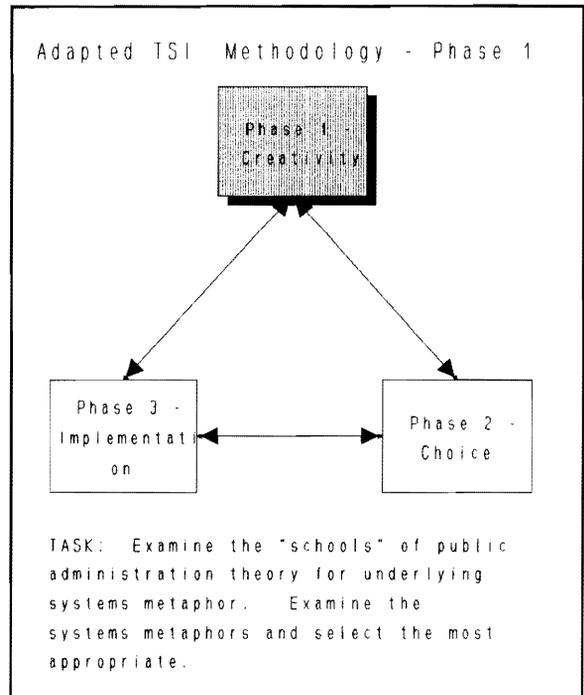
Figure 4.1 TSI Phase 1.

think creatively about governance and the role of public administration. As such, it asks three questions:

1) Which metaphors reflect the thinking of historical and current schools of public administration theory?

2) What are the implications of the prevailing metaphors - how have they influenced thinking about the role of public administration, and

3) How might alternative metaphors influence thought about public administration?

As tools for this process, TSI adopts a broad conception of systems"as complex networks, and a variety of systems metaphors that are used as filters with which to

view organizations (or, in this case, the process of governance[1]) as systemic abstractions. The metaphors (of many possible) used herein are:[2]

1) Governance as a *machine* (closed system view),

2) Governance as an *organism* (open system view),

3) Governance as *culture* (institutional view),

4) Governance as a *coalition* (pluralist political system view),

5) Governance as *flux and transformation* (chaotic system view), and

6) Governance as a *brain* (neurocybernetic, or learning system view).

Briefly, this chapter argues that the dominant metaphors used by public administration theorists since Wilson, the mechanistic and organismic metaphors, have led to, or supported, confusion over the legitimacy and the role of public administration in governance. Furthermore, the framers of the Constitution may have had a more sophisticated metaphor in mind. At a minimum, the Constitution is entirely consistent with a structuralist-cybernetic metaphor of governance. Such a metaphor is also known as a "neurocybernetic," or "brain" metaphor. Use of this and other metaphors can provide fresh insights into the role of public administration in governance.

The Metaphors implicit in Public Administration Thinking

This section considers the first question that must be addressed in the *creativity* phase of the Total Systems Intervention methodology as adapted to analysis of the role of public administration in governance. That question is: Which systems metaphors reflect the thinking of historical and current schools of public administration theory with respect to governance?

Since the discovery" of Wilson's (1887) essay and the founding of the field of public administration as a "self-conscious" (Waldo, 1984, p.42) entity in the 1920's, public administration theory has been dominated, with a few exceptions, by a view of governance as either a mechanistic or an organismic process. The *machine* metaphor of governance leads to the view that government is an entity - a *machine* that can be designed, understood, and controlled. Such a machine is composed of "parts" which interact in known (or fully knowable) ways. The machine can, therefore, be understood by examination and understanding of each of those parts. The *organismic* metaphor for governance leads also to the view of government as an entity, but the entity is an *organism*, rather than a machine. Such an organism is composed of "organs" that perform discrete "functions." Both metaphors involve reductionistic views of government as

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a closed (or nearly closed) system, or as composed of a number of such systems, that interact in only very specific and limited ways with their environment.

The "Classical" School and Governance Metaphors

The so-called "classical" school of public administration, which included the thinking of Wilson, Goodnow, Willoughby, et al, emphasized, among other things, the distinction between politics and administration, and sought a science of public administration. This was a direct use of the machine metaphor to think about governance. Governance is done by an entity, or organization, known as "government." Government, in turn, is composed of two systems - "politics" and "administration." Although concepts of the political system involved metaphors in addition to, or other than, the *machine* metaphor[3], the administrative system was clearly seen as having characteristics of a goal-seeking machine that could be scientifically understood, designed, and perfected. Politics provided the goals, and public administrators designed, engineered, and maintained "machines" to accomplish them.

Wilson's famous essay (Wilson, 1887) uses many explicit machine metaphors in referring to governance and public

administration, including the famous quote that "its getting

harder to *run* a constitution than to frame one." Law, for

example, should be administered, "with speed, and without

friction," and administrative tasks should be "adjusted to

carefully tested standards." According to Wilson,

administration is to politics "only as machinery is part of

the manufactured product," and the study of administration

should be to set executive methods "upon *foundations laid*

deep in stable principle." He argued that public opinion

could only be improved if we prepared better officials:

> as the *apparatus* of government. If we are to put
> in new boilers and to mend the fires which drive
> our governmental machinery, we must not leave the
> old wheels and joints and valves and bands to
> creak and buzz and clatter on as best they may at
> bidding of the new force. We must put in new
> running parts wherever there is the least lack of
> strength or adjustment" (p. 21).

Goodnow, on the other hand, uses distinctly *organismic*

metaphors. For example:

> Enough has been said, it is believed, to show that
> there are two distinct functions of government,
> and that their *differentiation* results in a
> *differentiation*, though less complete, of the
> *organs* of government provided by the formal
> governmental system" (Goodnow, 1900, p. 26).

He argued that all governmental systems were composed of two

primary functions, politics and administration, and that all

states have "separate organs, each of which is mainly busied

with the discharge of one of these functions" (p. 28).

Willoughby, on the other hand, tended to use mixtures of

both *mechanistic* and *organismic* metaphors, referring to the Budget, for example, as an "instrument," and the legislature as "an organ of public opinion" (Willoughby, 1918, p. 34).

The machine metaphor was also strongly present in organizational and management theories of the period, as exemplified by theories of bureaucracy and scientific management. Weber's concept of bureaucracy as a hierarchical structure driven by rules, evokes visions of a vast machine that can be designed to perform a precise mission efficiently. Frederick Taylor's scientific management assumed that the way people did their jobs could be "designed" by managers, just as the belt-driven machines the people operated were designed by engineers. The people themselves, in Taylor's view, could be scientifically selected for the job, similar to the way a designer selected the right types of pulleys and gears for a lathe.

Waldo (1956) conducted his own analysis of "root metaphors" that have been used in attempts to examine or explain various aspects of public administration, and identified the *machine model* as "probably the most pervasive and important model in American public administrative study in the Twentieth Century." He cites, as examples of early use of mechanical metaphor in the early literature:

> Chapter Three of White's first edition [which] was
> entitled 'The Administrative Machine,' and
> Willoughby's 1927 textbook [which] has a section

labeled, 'The Administrative Branch as a Single
Piece of Administrative Mechanism' (Waldo, 1956,
p. 31).

A machine is an apparatus with distinct parts, each

with a discrete and different function:

> The machine operates in a routine and repetitive
> fashion and performs predetermined sets of
> activities, seeking the rational and efficient
> means of reaching preset goals and objectives
> (Flood & Jackson, 1991, p. 8).

Such a view places great emphasis on efficiency and control

of the parts, with little emphasis on the environment. Goal-

oriented strategies, however, are "a socially constructed

necessity, characteristic of a mechanical mentality"

(Morgan, 1986, p. 106). To, perhaps, a lesser degree, these

qualities are also characteristic of organismic thinking.

The "Craftsmen"[4] and Governance Metaphors

The Craftsmen tended to believe that politics and

administration were inseparable, and that public

administration was not a science that could be reduced to

theory, but which had to be practiced through a

structuralist view of the situation and synergistic action.

This stream of theory, which was centered in political

science departments, favored a "case" method for teaching

Public Administration on the premise that public

administration could not be reduced to propositions and

theorems but it is a craft, or an art, that must be learned by closely studying and analyzing the work of past artists. The Craftsman stream, which started in the years immediately prior to World War II, continued until it was greatly overshadowed by the Modernist stream in the 1960's. From the 1960's through the 1970's it died out as Political Science departments lost interest in "administration." Representative examples of work in the Craftsman stream can be found in the works (among others) of Appleby, Long, Selznick, and Waldo.

Appleby, in <u>Big Democracy</u> (Appleby, 1945), evokes a *culture* metaphor by arguing that government is a *system* that can only be understood in terms of public employees' tastes, interests, and attitudes, including an attitude of public responsibility. These employees, however, also needed to stimulated toward "self-questioning and reflection," which is suggestive of a *brain* metaphor.

Norton Long evokes metaphors related to *power* (e.g., "The lifeblood of administration is power," Long, 1949, p. 203), and *coalitions* mixed with *machines:* "In ordinary times the *manifold pressures* of our *pluralistic society* work themselves out in accordance with the *balance of forces* prevailing in Congress and the agencies" (p. 207). All of these metaphors, however, are used in conjunction with a dedication to the *culture* metaphor as evidenced by an

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expressed desire to describe and, thereby, learn "the dynamics and interrelations of institutions" (p. 208).

Selznick is closely identified with an institutional viewpoint, which is characteristic of a *culture* metaphor. He also uses many metaphors, however, that relate to ecology and evolution, which Morgan (1986) generally classifies under a *flux and transformation* metaphor. For example, in TVA and the Grass Roots (1949) argues:

> if it is true that the TVA has, whether as a *defensive* or as an idealistic measure, *absorbed* local elements *into its* policy-determining *structure*, we should expect to find that this process has had an effect upon the *evolving* character of the Authority itself (Selznick, 1949, p. 197)[5].

He also uses terms (in reference to cooptation) such as *"adaptive response,"* and *"adaptation"* (p. 197).

What is arguably the best-known example of Selznick's institutional thinking, Leadership in Administration (1957), is also liberally sprinkled with references to *adaptation*, especially to *dynamic adaptation*, which Selznick sees as more than a simple response to a stimulus or satisfaction of a drive (*organismic* metaphor), but a "change in posture and strategy, the commitment to new types of satisfaction" (p. 34). Dynamic adaptation, used in this sense, is evocative of either a *flux and transformation*, or a *brain* metaphor.[6] Overall, Selznick seems to view organizations in terms of a

culture metaphor when he considers the organization in
isolation from its environment. When he addresses issues
that deal with the interaction of an organization with its
environment, he tends to move toward a *flux and
transformation* metaphor.[7]

Waldo, who functioned more as a reporter and critic of
public administration theory than as a theoretician himself,
identified seventeen different metaphors, or models, that
have been applied to one aspect or another of thought about
public administration (Waldo, 1956). While he made no
attempt to identify himself generally with any particular
one of the models,[8] he explicitly endorsed the *brain*
metaphor as important to overcoming the politics-
administration dichotomy:

> The *brain* or *"creative mind"* can serve as a
> model. I refer here, for example to Graham
> Wallas' distinction between "will" and "thought"
> organizations and his approach to the civil
> service as a problem in getting it to act as a
> thought organization -- to get "new ideas" or do
> "creative thinking." Mary Parker Follet also
> comes to mind in this connection, because of her
> Quakerish sense of "creation" through
> collaborative effort. And there are also Norton
> Long's recent essays on how the getting and
> sifting of new ideas can be "built into"
> administration.
> It seems to me that if we are serious about
> abandoning the politics-administration distinction
> -- if we are serious about policy being "made" in
> administration -- this line of inquiry needs to be
> taken very seriously" (Waldo, 1956, pp 44-45).

Overall, the dominant systems metaphor suggested by the "Craftsman" school of public administration is combination of *the flux and transformation* metaphor, together with an institutional, or *culture* metaphor. While there are strong hints of the *brain* metaphor, and explicit reference to it by Waldo, it neither dominated this school of theory, nor were its implications explored in depth.

Scientific Public Administration and Governance Metaphors

The Scientific, or Modernist, school of public administration theory took a rational, positivistic view of the field. They continued the belief in the separation of politics and administration, and that administration is a science. They rejected, however, the idea that there were general "principles" to administration and adopted the view that administration could be understood by understanding human behavior. Organizations could be managed by using that understanding of human behavior to manipulate them. This functionalist view was firmly based in logical positivism, and held that administrators were rational calculators whose rationality was necessarily bounded. Because of this, the decisions of administrators consisted of simple means-ends analysis within constraints imposed by hierarchy. The Modernist stream, in attempting to approach the study of administration as a "science," developed sub-

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fields of comparative public administration (e.g., Siffin), sociological studies of public administration (e.g., Perrow), studies of public administration and organizations e.g., Wamsley and Zald), studies of interorganizational relations (Aldrich and Whetten) and the politics of administration (e.g., Rourke, Ripley, and Blau), organizational psychology and human relations (e.g., Argyris, Herzberg, Likert) and administrative science and policy analysis (e.g., Dror, Lasswell, & Simon). The Modernists came on the scene rapidly in the 1950's and quickly overshadowed the "Craftsmen" Movement.

The "modernist," or "scientific" school of public administration, which started, roughly, with publication of Simon's (1947) <u>Administrative Behavior</u>, has relied on a combination of mechanistic and organismic metaphors, with the primary emphasis on the organismic. The organismic, or open systems metaphor, emphasizes functionality and order. The scientific school introduced open systems thinking into public administration theory (e.g., Simon, and March & Simon), and paralleled the introduction of such thought into organization and management theory in general (e.g., J. D. Thompson.)

Support for the idea that the *organismic* metaphor dominates this school is not difficult to find. Morgan (1986) categorizes the work of Perrow, Aldrich, Thompson,

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Argyris, and Herzberg as examples of that metaphor.[9] Nor is it difficult to find *organismic* references in Modernist school writing. Dror, for example, advocates that policy analysis staff positions be established near senior positions. These positions, which serve specific functions in organizations much as do an organism's *organs,* would be staffed by analysts that would establish "a *symbiotic* cooperative relationship" with top executives (Dror, 1967). Simon's study of decision-making processes in <u>Administrative Behavior</u> (Simon, 1947) is concerned with "vertical specialization" that maintains an organization as a "system in equilibrium" - clearly suggestive of an *open*, or *organismic*, systems view, although many people would argue that the overall viewpoint expressed in <u>Administrative Behavior</u> is actually a *closed* systems viewpoint.

Minnowbrook: A Search for "New" Metaphors

In the turbulent 1960's, a reaction to the public administration practice and theory developed, in the form of the New Public Administration movement that emerged at the Minnowbrook Conference of 1969. The New Public Administration movement attacked the prevailing theories of the Modernist stream, both in terms of their substance and, perhaps more important, in terms of their most basic

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assumptions and epistemology. Representative proponents of this new "school" of public administration theory included Frederickson, Harmon, Hummel, La Porte, Marini, Thayer, and White. The New Public Administration movement unleashed attacks on virtually all aspects of both the Modernist stream and those remaining fragments of the Craftsmen. Building on the ideas provided by Kuhn, New Public Administration theorists experimented, among other things, with new concepts based in interpretivism and radical humanism. *This new thinking did not displace the old, but simply added to and competed with it.* The result was a seemingly chaotic, state of public administration theory, "shattered" into competing paradigms, theories, and underlying metaphors.

Examples of the spectrum of systems metaphors represented by this "school" can be found in the papers presented at the 1968 "Minnowbrook" conference of "young Public Administrationists" (Marini, 1971). La Porte (1971) took a partially open systems view toward public organizations - an *organismic* metaphor[10]. White's (1971) paper dealt with negotiation, suggestive of a *politics* metaphor. Biller (1971) discussed "adaptation" and "environments" as they related to public administration - *organismic* metaphors. Kirkhart (1971) discussed

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phenomenology and the work of Alfred Schutz, which Morgan
(1986) relates to the *culture* metaphor, and which may evoke
elements of a *psychic prison* metaphor. Harmon (1971)
proposes an existentialist perspective toward public
administration, which is suggestive of a *psychic prison*
metaphor. Kronenberg (1971) seems to be arguing for some
combination of *organismic* and *culture* metaphors. Henderson
(1971) in proposing a "new comparative public
administration" makes a case for a *culture* metaphor, and so
forth.

*"Refounding" Public Administration: Governance Metaphors
and the "Blacksburg" School*

The so-called "Blacksburg" school of public
administration theory commenced officially with publication
of "The Public Administration and the Governance Process
(Wamsley, et al, 1987), also known as the "Blacksburg
Manifesto." The manifesto, written in reaction to
widespread criticism and denigration of the public service,
attempted to legitimize public administration by
reconceptualizing it away from its (mechanistic) identity as
"bureaucracy" to a new, institutional, identity as "The
Public Administration."

The Blacksburg Manifesto and the subsequent book
Refounding Public Administration were initiated as an

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attempt to lay the groundwork for a *refounding* of the field. The argument was that the first founding on the politics/administration dichotomy and the more recent dominance of behaviorism and positivism had led the field into its current dead end. They proposed a neo-Traditionalist approach grounded in structuralism and directed toward defining a legitimate role for public administration in governance.

The message of Refounding is that the "legitimate" role of public administration can be found in a concept of "agential leadership" wherein administrations consider themselves trustees of the constitutional order, acting as a "balance wheel" between competing branches of government in accordance with an "agency perspective." This perspective is the result of the institutional knowledge and experience that uniquely equips the staffs of agencies with what approaches consensus as to the public interest with regard to that agency's function (Walmsley, et.al, 1992).

A close reading of the Blacksburg Manifesto, and other published statements of the Blacksburg position, suggests a variety of systems metaphors imbedded in the thinking of the authors.[11] Refounding Public Administration identifies its authors as institutionalists (or, neo-institutionalists) and structuralists (Wamsley, 1990a, p. 13, 1990b, p. 19-22).

The authors of <u>Refounding</u> appear to equate institutionalism
or neo-institutionalism with structuralism. Jackson (1991)
ties structuralist views (generally, the belief that surface
phenomenon are the result of underlying structures or
systems of relationships, and that these relationships can,
and should, be uncovered and understood) with a "brain"
metaphor. Classical institutional thinking as represented,
for example, by Selznick (1957, 1965) is not inherently
"structural" and appears to most closely relate to a
"culture" metaphor. Neo-institutionalism (which holds, for
example, that, organizations are strongly influenced by
institutional "fields' in which they exist), while retaining
elements of the *culture* metaphor, is more strongly based in
a structuralist stance which can be identified with either
the *brain* or the *flux and transformation* metaphor. The
institutional/structuralist perspective is linked with the
New Public Administration school by Wamsley, who defines the
Blacksburg school as "Minnowbrook I with institutional
grounding" (Wamsley, 1990b, p. 20).

The Blacksburg Perspective appears to draw on the *brain*
metaphor, with lesser (albeit important) emphasis on *culture*
and *political* metaphors. These metaphors are applied both
to the concept of public administration, as it relates to an
agency and to the over-all concept of governance. In an
essay titled "A Legitimate Role for Bureaucracy in

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Democratic Governance" (Wamsley, et al, 1992), the Blacksburg authors draw attention to the fact that the English word "govern" derives from the Greek noun *Kybernatas*, which means "helmsman." *Kybernatas* is also the root of the English word "cybernetics."[12] They cite Lowi's argument that political science has embraced a myth that the American political system is an "automatic" and "self-correcting" process (*organismic* metaphor) which has no need for governance. "Governance," in this sense, seems to imply the active processes of selecting and modifying goals that are involved in a *brain* metaphor, rather than the less complex process of maintaining homeostasis implied by the *organismic* metaphor.

The Blacksburg authors argue that there are "two competing ideologies about governance" (Wamsley, et al, 1992), pluralist-democracy (*organismic* and *politics* metaphors) and administrative efficiency (*machine* and *organismic* metaphors). As an alternative to either of these two ideologies, they propose a "normative framework for a bureaucratic role in governance." that involves an "agency perspective," a broad understanding of the public interest, and an interpretation of the "constitutional governance process."

The "agency perspective" relies heavily on a *culture* metaphor in the form of classical institutional thought and a *brain* metaphor reflected in concepts of an agency as a learning organization which develops and follows an institutional concept of "the common good."[13] This perspective asks the public administrator to search for a sense of the public interest that is restricted to the "realms of the Agency and its policy community, grounded in their history, micropolitical economics, values, and cultures" (Wamsley, 1990c, p. 154). These concepts of "agency perspective" and "public interest" appear to be agency-centered versions of Vickers' "appreciative systems," (Vickers, 1965, 1983) which represent a combination of *culture* and *brain* metaphors.

The Blacksburg interpretation of the constitution concludes that the public administration "is subservient to no single branch, yet is responsible to all" (Wamsley, et al, 1992, p. 77). Under this concept, the legitimacy and role of "the public administration" does not derive from the design or aims of elected officials, nor from any explicit mandate of the Constitution, but rather from the enacted order that emerges from the underlying "order" that is embedded in the Constitution. The public administration as an institution, in fact, has "a special trusteeship role for

the maintenance of the *constitutional order* that the framers of the Constitution intended as an expression of the will of the people" (Wamsley, et al, p. 77). This clearly structural interpretation of the governance process is consistent with either a *brain* or a *flux and transformation* metaphor.

Despite its attempt to move away from *mechanistic* and *organismic* metaphors, however, the Blacksburg perspective is still heavily influenced by these metaphors. The idea that The Public Administration is part of a distinct function of governance, even when given an institutionalist flavor, depends on a metaphor which segregates governance into discrete *pieces* or *organs*. Moreover, the concept of "agential perspective" seems to imply that agencies should be thought of as distinct organs of government – open to the environment in a limited sense, but not interrelated with other agencies (other organs of government). The primary internal relationships are with the two governmental "organs" with "hierarchical" control over the agency, the president and the legislature. When these two "organs" are in conflict, agential leaders should "tilt" toward one or the other, in order to act as constitutional "balance wheels."

Systems Metaphors Behind the Constitution and <u>*The Federalist*</u>

The particular emphasis that the Blacksburg School places on a structural interpretation of the Constitution suggests that further examination of systems metaphors suggested by the Constitution and the arguments of its framers may be useful. This section reviews and considers some of the systems thinking that may have contributed to the Constitutional design and the compatibility of that design with other systems metaphors.

Systems Ideas of the Founders

The Founders appear to have based their Constitutional design in sophisticated systems concepts - far more complex that is normally associated with either the mechanistic or the organismic metaphor. Self-regulation and feedback thought, while not consciously recognized as such, was "simply a part of the spirit of the times in late-eighteenth-century Britain." and was much in evidence in the Federalist papers (Richardson, 1991, p. 64).

Platt (1966) argued that the constitutional principle of checks and balances represented a conscious effort to design a system of stabilization feedbacks. Evidence for the claim can be found in the *Federalist* papers, which Platt found to be:

our greatest text on how social feedback design
can be used to achieve social stabilization and
effective government . . . . They constitute a set
of social syllogisms showing in case after case,
theoretically and experimentally, how particular
legal or social feedbacks lead to either order or
chaos, stability or instability. What is the
phrase, "checks and balances," indeed, but an
almost equivalent phrase - expressed in the new
technical language of the 1780s - of what we would
now call a system of "negative feedbacks"
maintaining a dynamic equilibrium that continually
adjusts to various pressures? (Platt, 1966, pp
109-110).

One of the concerns expressed in The Federalist papers,

is instability. In The Federalist No. 10, Madison argued

that pure democracy, as practiced in Athenians, is inclined

toward turbulence and instability:

A common passion or interest will, in almost every
case be felt by a majority of the whole: a
communication and concert results from the form of
government itself: and there is nothing to check
the inducements to sacrifice the weaker party, or
an obnoxious individual. Hence it is, that such
democracies have ever been spectacles of
turbulence and contention; have ever been found
incompatible with personal security, or the rights
of property; and have in general been as short in
their lives as they have been violent in their
deaths (Cooke, 1961, p 61).

The idea that there is "nothing to check the inducements to

sacrifice the weaker party or an obnoxious individual" is

suggestive of an uncontrolled positive feedback loop

(Richardson, 1991). The solution was to design a

governmental structure, or form, that retained the goals of

democratic government, but that countered its tendencies

toward instability. "The writers of the United States

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Constitution sought to use similar, powerful self-interests to assure the self-regulation of government. Again the argument sounds vaguely loop-like: governments exist to control the self-interests of people, while the same sort of personal self-interests control government" (Richardson, 1991, p. 65).

The Federalists were sophisticated in their understanding of requirements for control and stability, emphasizing, for example, the importance of different response times for different types of disturbance. The Executive must be able to act with "energy and dispatch." The House of Representatives was designed, by limiting terms to two years, to respond to changes in the will of the people with moderate speed, and assigned duties accordingly, such as the initiation of taxation and spending legislation. The Senate, with six-year terms, was designed to focus on longer term issues and to act as a filter, or counter, to the short- and medium-term actions of the Executive and House of Representatives. The Supreme Court, with lifetime appointments, insured very long-term stability and was independent of other governmental disturbances. The amendment process itself was designed to "guard equally against that extreme facility which would render the Constitution too mutable; and that extreme difficulty which

might perpetuate its discovered faults" (The Federalist No. 43; Cook, 1961, p. 296).

Platt concludes that any system such as that established by the Constitution must meet several criteria, the first of which is that it must work. "Workability," implies, among other things, that it must "assume the worst - that men are 'ambitious, vindicative, and rapacious,' as Hamilton said - so that it can deal with such not merely when they appear, but before they appear; it must therefore have these checks and balances prepared in advance." (Platt, 1966, p. 118). Yet, Platt also emphasizes the importance of a multitude of "little communications and checks and decisions that push steadily in the same cooperative direction" (p. 119).

The constitutional system of checks and balances can be thought of as that portion of the system that is intended to deal with the worst in men *should the worst appear*. The intent is primarily that of a "fail-safe" system. Such systems are not *normally* expected to come into play, but are there in the case of "failure." In this cybernetic view of the constitutional system, governance was not intended by the designers to be predominately an *adversarial* system, but a *cooperative,* or *integrative* one, in which all of the elements worked together, each from the viewpoint provided by the appropriate "response time," to adapt to a changing

environment in order to maintain stability over the long term.

An integrative theory of governance, while retaining the idea that "checks and balances" are necessary for protection against potential "failures" of system elements, assumes that, although certain *functions* or *powers* are required by any system of governance, those functions must be distributed throughout the various organizational entities that constitute a "government" and not associated uniquely with a particular "part" or "organ." Rohr (1990) argues that, although the Framers voiced great belief in a "separation of powers" doctrine, their actions suggested a much more relaxed, pragmatic approach to the doctrine, that viewed a "partial intermixture" of powers as necessary. Indeed, the provision of a system of "checks" *requires* a certain "blending" of the powers of government (pp. 57-58). The recognition that powers cannot, in a practical sense, be separate, but must be blended in some degree, is an argument for an "integrative" theory of governance.

Underlying Metaphors in the Founding

Identification of the dominant systems metaphor underlying the Founding depends upon the conclusion we draw about the overall design of the Constitution. If the "separation of powers" theory of constitutional governance

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is assumed, then *mechanical* and *organismic* metaphors come to mind. Governance is seen as something done by "government" which consists of a combination of "parts" that act mechanically as "checks" or "stops" on the actions of each other. Alternatively, it may be seen as an "organism" whose "organs" have "functions" that must be defined and whose actions are "balanced" by those of other organs. Neither metaphor, however, implies an ability to select or modify goals. A machine blindly pursues the goal intended by its designer, adapting to minor, predictable changes in its environment, but ignorant of any change in circumstances that rend the goal obsolete. An organism concentrates on maintaining the homeostasis that is necessary for survival, without regard to external goals. It can adapt to moderate changes in environment, but is unable to modify its internal design, select or revise goals that do not directly relate to survival, and cannot adapt to major environmental changes.

If the "blending of powers" theory of governance is assumed, as is argued in the preceding section, other metaphors come to mind. The main such metaphor, the *brain* metaphor, concentrates on systems that possess more than the ability to "learn" (single-loop), but that also are capable of "learning to learn" (double-loop). The brain is the premier metaphor for such capability. The brain *integrates*

all of the sensory data to construct a detailed model of its environment. The brain's elements, its nerve cells and ganglia, interact in complex, cooperative, and integrative ways to produce the *gestalten* that, in turn, integrate to produce conscious intelligence. All of this leads to the conclusion that, if a *brain* metaphor did not influence the thinking of the Founders, it is at least more consistent with their design than either the *machine* or the *organism* metaphors.

The Impact of Mechanistic and Organic Metaphors on Public Administration Theory

This section continues the "creativity" phase of the adaptation of TSI methodology to the issue of governance and the role of public administration, by addressing the implications of the metaphors that have most (with a few notable exceptions) clearly influenced public administration theory. It presents the argument that the "traditional" problems of public administration theory relating to the distinction between politics and administration and the legitimacy and role of public administration have arisen because of the manner in which mechanistic or organismic governance metaphors have "framed" public administration theory. Further, it suggests the likelihood that the concept of "public administration" as an entity that has

"legitimacy" and a "role" is an artifice, or epiphenomenon of the original "machine" metaphor. The act of retaining and using the concept restricts our ability to fully frame governance in terms of alternative metaphors and to consider conceptual alternatives to "public administration."

The Politics/Administration Dichotomy

Perhaps the first, certainly the most famous, early academic effort devoted to public administration was Wilson's (1887) essay "The Study of Administration." This was followed thirteen years later with Goodnow's Politics and Administration. Goodnow voiced the argument, common to Traditional public administration theorists, that politics and administration could be distinguished as "the expression of the will of the state and the execution of that will." This belief, which grew out of the progressive and civil service reform movements, was based in the ideas of writers like Taylor and the Scientific Management movement, that management and administration could be reduced to "value-free" science. The first textbook devoted to public administration, White's (1926) Introduction to the Study of Public Administration, fully enforced the idea of the dichotomy of politics and administration. The function of administration, centered in the bureaucracy, was to execute

efficiently and impartially policy that had been established

elsewhere.

According to Jackson (1991), the *machine* metaphor, as

applied by Taylor, Fayol, and Weber to organizations, has

led to a machine model of organizations with the following

characteristics:

> The organization is viewed as an instrument designed to
> achieve the purpose of the people who set it up or who
> now control it. It is constructed of parts combined
> according to management principles in a way that should
> enable maximum efficiency to be achieved. Decision
> making is assumed to be rational. Control is exercised
> through rules and a strict hierarchy of authority.
> Information is processed according to the arrangement
> of tasks and by exception reporting up the hierarchy
> (p. 24).

Similarly, a machine model of governance divides governance

into two functions, politics and administration. "Politics"

is the mechanism through which "the purpose of the people

who set it up and now control it" is expressed, whereas

"administration" is performed by government in the form of

an instrumental organization, composed of discrete parts

arranged in a hierarchy.

The *organic* metaphor tends to ignore the issue of

politics vs administration, insofar as organism models have

no goals, as such, other than survival. To the extent,

therefore, that public administration theorists have relied

on the organic metaphor for framing theory, that theory has

avoided "normative' issues and relied on concepts such as

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"neutral competence." Neutral competence is consistent with a conceptual view of governance as an organic open system, composed of functional administrative "cells" which must "survive," and which attempt to maintain a "steady state," despite the viscidities of the political environment that impinges upon the organism.

Since each "cell" is, itself, an open system to some extent, environmental influences (and thus politics)[14] can "leak" into individual administrative organizations. This understanding leads to a recognition that politics and administration are never entirely separable, and the view that politics and administration are never totally inseparable. Theory framed in the *organismic* metaphor is fundamentally incapable, however, of dealing with governance in terms of normative "goals," and must either ignore the issue (under the guise of "neutral competence") or look to another metaphor (e.g., either the *machine* or *politics* metaphor, or a combination of the two).

The Legitimacy and Roles of the public administration

The "legitimacy problem" in the field of public administration and policy has been around almost since the founding of the country. Various approaches to reconciling effective administration with democratic values have been

proposed, and tried. Questions of legitimacy are not just restricted, however, to the bureaucracy. Current popular concern with Congressional term-limits and influence in elections also reflects the public sense of doubt as to the legitimacy of "government" in general.

This public concern with legitimacy relates closely to a public perception of governance as something done by a "government" and not as an inherent social process. As such, this perception reflects the prevalence of *mechanistic* and/or *organismic* systems metaphors in public thought about the matter. Both the *mechanistic* and the *organismic* metaphors lead to reductive views of reality, that is to say, they lead to the view that any particular "system" can be subdivided into functional elements, or parts. These parts of the whole system can, in turn, be considered in relative isolation from the rest of the system to which they belong. This idea is a common one. Churchman claimed that it is so deeply ingrained "in Western thought that we naturally think it proper to subdivide our society into functional elements. We think it proper that each element develop its own criteria of improvement and that the elements be as free as possible from the interference of the other parts of the social structure" (Churchman, 1968, p.2).

In the case of theory framed in terms of either metaphor, governance becomes "government," a separated,

functional element of society. Society, in effect,
bifurcates itself into a "private" and a "public" sector,
which, in turn, is bifurcated into "administration" and
"politics." This bifurcation goes back, at least, to the
Greeks. These reductions and bifurcations result in the
conceptual divorce of the members of society from the
inherent processes of governance. Governance, a process
inherent to social existence, becomes synonymous with
government, a machine or organism separate from the society
it "controls."

According to the Dorsey Dictionary of American Politics
(Shafritz, 1988), legitimacy is "both a specific legal
concept" and an "amorphous psychosociological concept." If
governance is seen as an inherent part of the fabric (or
"structure") of social life, the details of that process may
be at issue, but its legitimacy, in the sense that it is a
part of the psychosocial process, can no more be questioned
than can the legitimacy of other social processes, such as
the development of personal relationships or the making and
exchange of goods and services. The legitimacy of a
government - that entity or institution formally charged
with performing specific portions of the governance process
- may be a legal issue, but it is essentially a question
about the "details" of the process, rather than of its
existence.

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As the *organismic* began to supplant the *mechanistic*
metaphor, the distinction between politics and
administration diminished, but the normative basis for
government remained problematic, the question of a
representative bureaucracy arose. An original weakness in
the Constitution was the fact that so many people were
represented by so few in the legislature. This weakness
exacerbated the tendency to see governance as consisting
wholly of a formal governmental entity that was distinct
from the rest of society. The Anti-Federalists, favoring a
theory of representation that "held that a representative
assembly should be a microcosm of the society as a whole"
(Rohr, 1986:41), sought unsuccessfully to retain the
integration of governance with society. As the population
of the country grew, the bifurcation became increasingly
greater as the level of real representation decreased. The
result is that few members of the electorate see their
legislative representative as someone who "thinks as I
think, and feels as I feel." Rohr argues that the
administrative state heals this defect. By its very size
and composition, the bureaucracy, while not a "true"
microcosm, meets the broad "middle-class" standards of the
Anti-Federalists.

It is, perhaps, this feeling of being unrepresented and
alienated from the governance processes that has led to

modern demands for greater accountability by all parts of
government, and increased dissatisfaction with "the
government," in general. Despite this "theoretical"
representativeness of the bureaucracy, it seems questionable
whether the public in general sees the bureaucracy as either
representative *of* them, or as their representatives. Thus,
while the administrative state may have corrected a
theoretical defect in the Constitution, that orientation has
not contributed, in itself, to any popular sense of
legitimacy in the government. To the contrary, numerous
political candidates have been successful by emphasizing
anti-government and anti-bureaucratic agendas aimed at
increasing the accountability of the bureaucracy to the
public.

     As the sense of representativeness has decreased, the
feeling that the actions of government are necessarily
legitimate has declined proportionately. As government has
been seen as less legitimate, demand for greater
accountability has risen to compensate for decreased trust
in government. The regulations and restrictions imposed on
the public administration to insure accountability have
necessarily reduced discretion, thus reducing the ability of
government to respond to the needs of individuals. This, in
turn, has increased the feeling of alienation from
government, leading, in turn, to demands for still more

accountability, in an ever worsening spiral of increasing dissatisfaction and decreasing accountability. The stakes, then, are quite high, since the ability of the entire government - not only the public service - to *act*, and thus to be effective, has become increasingly impaired. The idea of the "agency perspective" is an attempt to reconceptualize and legitimate the role of "The Public Administration"[15] around an argument that "the popular will does not reside solely in elected representatives, but in a constitutional order that incorporates a remarkable variety of legitimate titles to participate in governance" (Wamsley, et. al., 1992: p.77). The Public Administration is, therefore, entitled to legitimacy by virtue of its grounding in statute and in constitutional order. Each officer of the government may be considered a "representative" of the people regardless of whether they were elected, appointed, or otherwise selected for office. This theory, which Rohr and others argue was the Federalist's interpretation, provides agencies with a *theoretical*, or a rational-legal, claim to legitimacy for governance.

The existence of a legal or a theoretical claim for legitimacy, however, does not satisfy the psychosocial aspects of legitimacy. It is in this regard that the idea of the agency perspective holds its greatest potential.

Public agencies as *institutions* are repositories of
something approaching the public consensus as to the public
interest in its particular area of concern. They are the
organizational entities that *act* to achieve public policy
and some semblance of the public interest.

The problem with this view is that it is based in the
concept of "the public administration," This concept,
however, cannot exist except in the functional context of
mechanistic or *organismic* thinking. If governance cannot be
functionally segregated from society, then government cannot
be functionally separated from governance, and public
administration cannot be a distinct function of government.
And if all of these concepts derive from the metaphorical
basis we use to think about systems, then theoretical
questions about the legitimacy or role of such concepts are
similarly the resultant - epiphenomena - of those same
metaphors.

The search for a *role* for public administration,
legitimate or otherwise, is symptomatic of the mechanical
systems concept of government - we tend to think of
government in terms of an organization chart with boxes.
Each box should be carefully marked with its *function,* (or
role), and connected hierarchically to those above it.
<u>Refounding</u>, which professes its basis in structuralist and
institutional thinking, proposes some flexibility, even some

discretion about lines of reporting and responsibility (sort
of a Constitutional matrix-management), but still seeks to
put a function on the box "public administration." This
reductionist thinking is *still* very much the thinking of
Taylor, and Scientific Management.

Applying Other Systems Metaphors to Governance: Potential "Frames" for Public Administration Theory

The preceding section, addressing the second question
in the creativity phase of the TSI methodology, has argued
that thought based in mechanistic and organismic systems
metaphors has produced the "problem" of public
administration theory involving the distinction between
politics and administration and the legitimacy and role of
"the public administration." It is not clear at this
point, however, that use of another metaphor leads to a
different situation. This section addresses the third
question in our adaptation of the TSI methodology by
considering the potential applicability of other
metaphorical "frames" to public administration theory. It
uses a combination of Morgan's (1986) organizational
metaphors and the systems metaphors and their critiques
developed by Jackson and Flood (Jackson, 1991; Flood and
Jackson, 1991) to consider, briefly, the general
implications of *culture*," "*coercion*," (or *politics*), *flux*

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and transformation, and *brain* metaphors as "frames" for considering governance and the role of public administration within governance.

It is important to remember that this review of alternative metaphors is done from the complementarist stance that the TSI methodology is based in. This stance holds that no systems metaphor is inherently superior to another, but that particular metaphors can be more or less useful for specific purposes. The analysis of alternative metaphors is conducted, therefore, from the perspective of the *utility* of each metaphor for the task at hand, which is to reframe public administration theory in a manner that resolves the troublesome dichotomies.

Governance as "Culture"

The *culture* metaphor, at the level of organizations, emphasizes a shared, or a socially constructed reality that finds certain agreed beliefs, values, and social practices to be normal, acceptable and desirable. The use of the *culture* metaphor leads to the understanding of organizations as processes in which the perceptions of reality are the result of continuous negotiation and renegotiation of meaning in which shared values and beliefs are important to survival of the system. When applied to governance, this

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metaphor is well expressed by Vickers' (1965, 1983) "appreciative systems" model.

The *culture* metaphor can be especially useful for examining the institutional aspects of organizations or groups within society and their interactions as part of the governance process. It is also for understanding of how public administration and its role within the governance process is viewed by the public. Certainly, no understanding of public administration and its legitimacy within our society can be a full understanding without strong elements of the *culture* metaphor. No theory of the role of public administration in the governance process can rely solely on this metaphor, however, unless we are prepared to accept the view that public administration is *only* about leadership and an attempt to build shared meanings in society.

The *culture* metaphor can also be particularly useful when considering the role of administrative officials within their own agencies, where they *clearly* have roles relating to the building of shared meaning and organizational culture. The *culture* metaphor by itself, however, appears to offer little of use in clarifying our understanding of the role of public administration within governance. We must conclude that, although the *culture* metaphor must be a

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significant factor in any complete theory of public
administration, it is not useful for this immediate task.

Governance as "Coercive," or "Political Systems"

The *coercion,* or *political* metaphor, according to
Flood and Jackson (1991) sees relationships between both
individuals and groups as involving the competitive pursuit
of power. Certainly all concepts of governance consider
government to be part of a political system. Morgan (1986)
applies this metaphor to organizations in which questions of
power and accountability, autocracy and democracy, and the
like are clarified by thinking of an organization as
analogous to a government. There would appear to be little
purpose in pursuing this metaphor further since, in a sense,
it amounts to looking at government as government - a
tautology that is not likely to enlighten us any further
than it already has.

This metaphor, like the *culture* metaphor, is clearly a
necessary component of any complete theory of public
administration. Issues of coercion and power are obviously
issues of importance to governance. Similarly, this
metaphor can be helpful in understanding the particular
power relationships within a given agency, or as they relate
to a particular policy issue. It does not appear likely,
however, to shed much light on the issue at hand.

Another metaphor, in some sense the inverse of the *political* metaphor, has been around for many years in the form of a *business* metaphor. Many attempts, ranging from the economist's agency theory to the current "entrepreneurial government" movement rely on this view that government is simply a larger than usual corporation which can be "managed" according to well established techniques used by private businessmen. In this view, Congress becomes kind of a super board of directors, and the President the CEO. Public administration, in the *business* metaphor, is nothing more than management.

Some aspects of public administration *are* clearly managerial, and can gain from use of this metaphor, but it is easy to carry it too far. If government is a business, it is indeed a peculiar one in which the "owners" are the ones who pay, the "customers" are the ones that profit, and all the customers are also owners. The "business" tends to run at a loss, yet must drive unauthorized potential owners away from its shores. When we try to apply this metaphor at the level of governance and the question of legitimacy of public administration it stretches our credence too far to allow us to consider it further.

Governance as "Flux and Transformation"

The systems as *flux and transformation* metaphor relates closely to recent work in nonlinear complex systems theory (which includes deterministic "chaos" theory) as it applies to physical systems and the evolution of biological systems. The view emerging in biological evolution sees chaos (or near chaos) at the micro-systems level inducing dynamic stability at the systems level which, in turn, leads to reorganization, or adaptation at the macro-systems level.[16] This metaphor is closely related to some cybernetic epistemologies, including those which are also identified with the *brain* metaphor, which is really a variant (or, at least, a close relative) of the *flux and transformation* metaphor. The brain can be seen as consisting of a large number of deterministically chaotic neuronal interactions which organizes itself into a condition of dynamic stability, thus permitting the organism to be adaptable. For the sake of simplicity, this metaphor will not be explicitly referred to further, but will be considered to be implied whenever the *brain* metaphor is discussed.

Governance as a "Brain"

The *brain* (also known as the *neurocybernetic, viable system,* or *learning system,*) metaphor "looks to the brain as

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a well tried and tested control system that depends upon an ability to communicate and learn" (Flood & Jackson, 1991. p. 11). The *brain* metaphor adds to the organismic, open systems cybernetic view an emphasis on the importance of learning to learn. "Learning to learn," in this context, includes the acceptance of dynamic, rather than static, aims and objectives, and an emphasis on self-questioning as opposed to mere self-regulation. A holographic version of the *brain* metaphor "stresses getting the whole into the parts, creating connectivity and redundancy, and simultaneous specialisation and generalisation" (Flood & Jackson, 1991, p. 11).

The *brain* metaphor is one of three "design" metaphors identified by Flood (1993) - *machine*, *organism*, and *brain*. By "design," he means that these three metaphors are particularly well adapted to the use of what Habermas called "technical" knowledge. Technical knowledge, Flood argues, is the type of knowledge that is appropriate for design of organizations. Other metaphors, such as *culture* and *politics* are useful for other things, but are not particularly relevant to organizational design.

Whereas the *organism* metaphor implies passive adaptability, the *brain* metaphor, when applied to organizations, emphasizes active learning and focuses attention on decision making and information processing

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(Jackson, 1991, p. 25). In organizations where task uncertainty is high, information-processing capability becomes critical and the organization must be structured either to increase information processing capacity or reduce its need for information (Galbraith, 1977). Such an organization is self-organizing, innovative, open to inquiry and self-criticism, and holographic (Morgan, 1986, p. 105). The organization as a *brain* employs cybernetic principles that rely on a strategy of choosing limits and constraints, rather than ends or goals. This strategy, according to Morgan (1986), creates "degrees of freedom that allow meaningful direction to emerge" (p. 106).

It does not require great difficulty to apply these ideas to our concept of governance. Certainly task uncertainty involving governance is extremely high, and increasing as our post-modern society becomes increasingly diverse, multi-cultural, and even a-cultural. We have moved ever further from the Anti-Federalists ideal of homogeneous republics, led by representatives who "think as we think, and feel as we feel." The system of federal government devised by the Constitution is a cybernetic system that relies on a strategy of limits and constraints, rather than ends and goals. It is within the "degrees of freedom" permitted by the Constitution that society self-organizes toward reasonable consensus. The consensus, however, is not

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necessarily stable, or complete, and self-organization

continues as an ongoing process, rather than as a discrete

event. Governance organizes itself around that consensus.

The instrumental organization of governance, "the

government" needs to learn, adapt, and continuously self-

organize in response to these changes. Within the

government individual agencies and institutions must also

self-organize in response to self-criticism and learning, as

the entire process incorporates itself holistically, or

recursively, into all of the relevant aspects of governance,

whether officially within the government, or part of a non-

governmental governance process[17]. "Public administration,"

within this metaphorical frame, refers (at best) to

particular levels of recursion, and not to substantial

differences in inherent function from any other entities of

governance. The fact that governance has been framed

primarily in *mechanistic* and *organismic* metaphors has led

to, or supported, undesirable and destructive distortions

and constraints upon these functions of learning and self-

organization. The following chapters will consider the

implications of these statements in more detail.

Chapter Summary

The Total Systems Intervention Methodology, which has been adapted for use as a guide through this analysis consists of three phases: "creativity", "choice," and "implementation." This chapter has addressed the first, or "creativity" phase of the Total Systems Intervention methodology. The "creativity" phase creatively examined systems metaphors that are evoked by previous streams of public administration theory and thought, and critiques these metaphors in terms of their influence on the resultant theory. This examination and critique was used to argue that some of the key "problems" or issues that have engaged public administration thinking and theory, such as the politics-administration dichotomy, are closely related to, or the result of, the *mechanistic* and *organismic* metaphors that have been used to frame the concept of governance. More particularly, questions about the "legitimacy" and the "role" of "The Public Administration" are epiphenomena of those same metaphorical views.

It was concluded that the Blacksburg school of public administration theory begins to move away from these problems by partially adopting a structuralist approach, which is metaphorically different from the functional approach represented by mechanical and organismic metaphors. Similarly, it was concluded that the design of the

Constitution is thoroughly compatible with a structuralist perspective.

Finally, alternative systems metaphors were considered and critiqued. It has concluded that, of several possible alternative metaphorical "frames," for governance, the structuralist metaphor based on the *brain* is the most promising from the standpoint of public administration theory related to legitimacy and roles. The stage is now set to use the results of the first, or "creativity," phase of the TSI methodology in the second, or "choice," phase.

Notes to Chapter 4

1. "Governance" is used in preference to "government" in order to emphasize the process of governing and avoid any connotation of "organization," "entity," "machine," "organism," or the like that may be associated with a particular systems metaphor that is used to frame that process.

2. These metaphors are a combination of metaphors suggested by Flood & Jackson (1991) and Morgan (1986).

3. Primarily, the "political" subsystem of governance was viewed from the standpoint of either a "unitary political system," or "team" metaphor, which sees goals as rational, consensual, and unitary, or of a "pluralist political system," or "coalition" metaphor, which sees goals as the result of the coalition of diverging group interests (see Flood & Jackson, 1991, pp 13-14). The important point, however, is that governance is mechanistically divided into two distinguishable subsystems - "politics" and "administration."

4. The definition and description of the various Schools of public administration generally follow White and McSwain (1990). White and McSwain label this school, or stream, of pubic administration theory as "Traditionalist." Several people, however, (including Dwight Waldo) have pointed out that the term "Traditionalist" is not very accurate. Accordingly, I have called it the "Craftsman" stream of public administration theory, since it was characterized, generally, by the belief that the practice of public administration was more "craft," or "art" than "science."

5. Page numbers are from an excerpt of <u>TVA and the Grass Roots</u> in Shafritz and Hyde, <u>Classics of Public Administration</u>.

6. As will be seen later in this chapter, there is little practical difference between these two metaphors.

7. The reader might notice that there is an underlying systemic dichotomy in his thinking about organizations, which treats as sometimes "closed," and sometimes "open" systems.

8. Waldo, in fact, probably would have been quite comfortable with complementarism and critical systems theory. "My own point of view is that since administration is so large a subject, and still in many ways so dark, we should open upon it all the windows we can find; that all models and idioms have their virtues -- and their vices; that as we proceed we exercise as much intelligence and good will as we can command in determining

what any particular model can or cannot do for us" (Waldo, 1956, p. 49.)

9. Not surprisingly, he associates Lasswell with the *politics* metaphor.

10. La Porte argued that he saw public organizations as only "partially" open, and unlike an organic structure because members of an organization may come and go, whereas elements of an organic system are continuously joined together. Despite this qualification, he still seems to be thinking in terms consistent with the organismic metaphor.

11. It is not surprising that the published works of the "Blacksburg School" would show evidence of several systems metaphors. This can be true for either (or both) of two reasons. First, few people, consciously or otherwise, can think or write about any system as complex as "governance" or "public administration" without hints of several metaphors being in evidence. Second, where multiple authors are concerned, each author, even when in general agreement with the others, will tend to have a preferred, or "favorite" metaphorical "lens" with which to approach a problem. This effect should be particularly evident where each author has written a different chapter of a book, such as was the case with Refounding Public Administration. (Wamsley, et al, 1990).

12. Webster's New Collegiate Dictionary defines "cybernetics" as follows: "[Gk *kybernetes* pilot, governor (fr. *kybernan* to steer, govern) + E -ics]: the science of communication and control theory that is concerned esp. with the comparative study of automatic control systems (as the nervous system and brain and mechanical-electrical communication systems.)" As has been suggested in a previous chapter, cybernetics can be associated with either an "organism" (hemostatic autopilot), "brain," or even a "flux and transformation" metaphor.

13. See especially Wamsley, 1990c. Wamsley, unfortunately, reverts to the purely mechanical metaphors of "mainspring," and "balance wheel" to illustrate his argument.

14. The application of an organismic metaphor to governance by public administration theorists leaves ample room for "political" metaphors to assume the role of "environment."

15. "The Public Administration" is used here in the sense used by Wamsley, et al (1990, p. 34) of "an institution of government."

16. The reader is referred to Roger Lewin's (1992)book
Complexity: Life at the Edge of Chaos for a "popular," but
thorough and clear explanation of this concept.

17. The non-Governmental governance process includes governance
related actions by entities or individuals that are not a part of
"official" government. This includes contractors to official
government, the media and press, various lobbying groups, non-
Federal governmental entities and officials, and the like. All
of these are (or potentially are) part of the holistic, or
recursive, nature of governance as seen from the frame formed by
a "brain" metaphor.

CHAPTER 5

USING "A SYSTEM OF SYSTEMS METHODOLOGIES" TO SELECT A
METHODOLOGY

*a model is neither true nor false: it is more or
less useful* (Beer, 1985, p.2).

The last chapter used the first, or "creativity," phase

of the Total Systems Intervention (TSI) methodology to argue

that some of the key problems that have troubled public

administration theory can be seen as relating to the

mechanistic and *organismic* systems metaphors that have

mainly framed the concept of governance in the United

States. It concluded that a structuralist approach grounded

in a *brain* or neurocybernetic metaphor offered hope of

enriching our view of public administration, and adding

usefully to its theoretical development.

This chapter continues the use of the TSI methodology

through its three stages of "creativity," "choice" and

"implementation," by applying the "choice" phase to the

issue at hand (see Figure 5.1). The task of the "choice"

phase is to choose a systems-based methodology that

appropriately suits the particular problematic situation

defined in the previous chapters and that can be used in the

third, or "implementation" phase of the TSI methodology to

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examine more deeply the implications of the *brain* metaphor for public administration theory. This chapter, therefore, examines available systems methodologies that draw heavily on the *brain* metaphor, selects a appropriate methodology, the Viable Systems Model, for use in examination of the
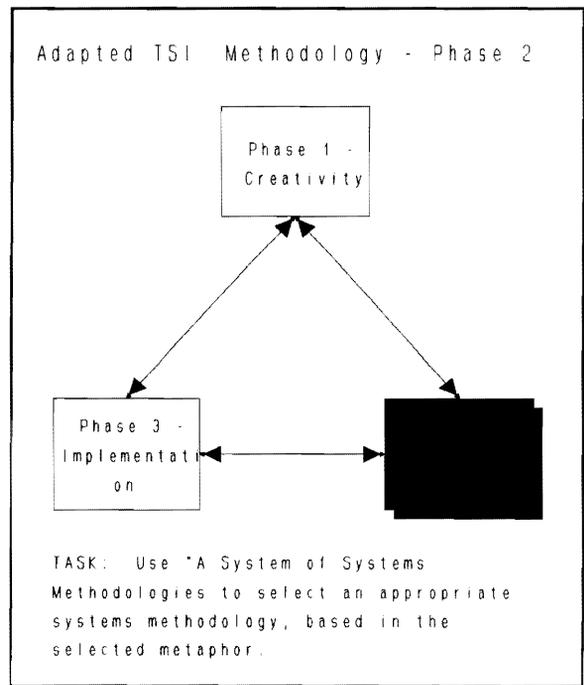
Figure 5.1 TSI Phase 2.

role of public administration in governance, and describes that methodology in some detail. Finally, it considers critiques of the Viable Systems Model in light of the intended application and concludes that the Viable Systems Model is a useful and acceptable methodology for the purpose, provide it is used with some care.

Selecting a Systems Methodology

This section addresses the "choice" stage of the Total Systems Intervention methodology. According to Flood and Jackson (1991) the task of the choice phase is "to choose an appropriate systems-based intervention methodology (or set of methodologies to suit particular characteristics of the

organization's situation as revealed by the examination conducted in the creativity phase." The tools that they suggest for this stage are the "system of systems methodologies" (Flood and Jackson, 1991, pp 31 - 43; Jackson and Keys, 1984; Jackson, 1987; Jackson, 1990) and knowledge of the systems metaphors that underlay each systems methodology. The system of systems methodologies allows one to relate specific methodologies to specific systems metaphors. Just as each school of public administration theory exhibited a dominant metaphor, with elements of other, supporting, metaphors, so also does each methodology tend to represent several underlying metaphors. The task of the "choice" phase, then, is to select a methodology or group of methodologies that represent a mix of metaphors that are of interest. The outcome of the choice phase, therefore, may be selection of a "dominant" methodology tempered with ideas from other "dependent" methodologies.

Applying "A System of Systems Methodologies"

The "system of systems methodologies" uncovers the assumptions made by each methodology with regard to the systems with which it deals. It groups problem contexts according to whether the relevant system context is simple or complex and whether the relationships between participants are seen as unitary, pluralist, or coercive.

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This leads to six possible "ideal type" problem contexts
(see Figure 5.2). Each "ideal type" is then correlated with
methodologies that support those assumptions about the
problem context.

	UNITARY	PLURALIST	COERCIVE
SIMPLE	Simple-Unitary	Simple-Pluralist	Simple-Coercive
COMPLEX	Complex-Unitary	Complex-Pluralist	Complex-Coercive

Figure 5.2   An "ideal type" grouping of problem contexts
(Flood and Jackson, 1991, p. 35).

The Problem Context

The first task is to decide upon the appropriate
problem context for this problem. Flood and Jackson (1991,
p. 33) define simple systems as ones that, among other
things, are comprised of a small number of elements with few
interactions, whose behavior follows well defined laws and
whose subsystems do not pursue their own goals. Complex
systems, on the other hand, are composed of a large number
of elements with many interactions, and whose attributes are
not predetermined. Complex systems are probabilistic in

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their behavior and evolve over time. Their subsystems are purposeful and generate their own goals, are subject to behavioral influences and are largely open to the environment. There seems to be little doubt that our American system of governance fully qualifies as a complex system within this definition of "complex."

It is now necessary to decide if the governance problem context most closely approximates a complex-unitary, -pluralist, or -coercive ideal type. Flood and Jackson define these three terms, which describe the relationships between participants as follows:

Unitary

- they share common interests;
- their values and beliefs are highly compatible;
- they largely agree upon ends and means;
- they all participate in decision making;
- they act in accordance with agreed objectives.

Pluralist

- they have a basic compatibility of interest;
- their values and beliefs diverge to some extent;
- they do not necessarily agree upon ends and means, but compromise is possible;
- they all participate in decision making;
- they act in accordance with agreed objectives.

Coercive

- they do not share common interests;
- their values and beliefs diverge to some extent;
- they do not agree upon ends and means and "genuine" compromise is not possible;
- some coerce others to accept decisions;

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- no agreement over objectives is possible
  given present systemic arrangements.
                   (Flood and Jackson, 1991, pp. 34-35)

It is necessary to consider whether the relations among
participants are either unitary, pluralist, or coercive as
relates to the problem context of interest.

The problem context that we are interested in is
American governance at its most fundamental level. We are
not concerned with specific issues of what programs
government should or should not pursue. Similarly, we are
not concerned, at this point, with how government should go
about the execution or conduct of such programs as it
decides to conduct. We are concerned with the fundamental
structure of governance within our society and how issues of
public administration fit into that structure. The problem
context that we are concerned with is defined by the core
beliefs and agreements about the form and means of
governance as embodied in our Constitutional tradition.[1] It
is this context of governance that must be examined.

While governments clearly can be and are coercive, our
system of governance is not coercive *within this context*.
We all pretty much share a common interest in maintaining a
system of constitutional governance and hold to common
"regime" values and beliefs about the need for and general
nature of a system of governance. Few of us, for example,

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seriously call for a totally new system of governance or propose to coerce others into accepting such an alternative. Unlike some totalitarian states, we are not coerced into acceptance of our basic system of governance, but are free to leave at will. While we may disagree strongly about the specific ends to which government should be put and the means to achieve those ends, we generally agree on the need for survival of our system of governance. We may, from time to time, feel coerced into accepting political decisions that result from our system of governance, and may even advocate minor structural changes to the system. We do not, however, feel that the systemic arrangements inherent in our constitutional system prevent any possibility of agreement as to our form of government. The problem context, accordingly, is not a "coercive" one.

Having established that the problem context is not "coercive," it is necessary to decide if it is more "unitary" or more "pluralist." If we were interested in decisions about what things government should do, the problem context would clearly be "pluralist." In this case, however, we are primarily concerned with what a system of governance consists of; that is to say, we are concerned with the structural question of how our society governs itself and where public administration fits within that structure.

It is true that there is often great disagreement over
what our system of governance should do, and compromise is
frequently necessary regarding the ends to which the system
put and the means through which they are accomplished. But,
there is virtually no serious disagreement regarding the
overall structure of our governance system. Basic
structural questions were resolved with adoption of the
Constitution. While elements of the Federalist/Anti-
Federalist debate over the basic structure of government
have continued into modern times, the overall structural
form of governance has been essentially a closed issue since
the end of the Civil War. We share common interests in a
system of governance that endures and that protects our
fundamental rights and liberties, although we may disagree
strongly on what some of those rights and liberties ought to
be and how they may best be accomplished.

Questions about the role of public administration
closely parallel questions about the structure of government
itself. Few would question, for example, whether there *is* a
role for public administration, or whether that role must be
found within the existing structure of government. It must
be concluded, then, that there is a strong "unitary" element
to the problem context, but also strong elements of
"pluralist" relationships. Accordingly, we should look for

systems methodologies that support the "complex-unitary" and "complex-pluralist" problem context ideal types.

Assessment of Systems Methodologies

It is now necessary to select one or more systems methodologies that may prove useful in examination of the role of public administration in governance. Several criteria have been developed:

1) the methodology should reflect an underlying structuralist ontology and epistemology.

2) it should be based in an underlying systems metaphor suggestive of a "brain" or a "learning system."

3) it should assume that the problem context is either complex-unitary or complex-pluralist, with a preference for complex-unitary.

According to Flood and Jackson (1991) two methodologies that meet criteria 2) and 3) are viable system diagnosis (VSD) and interactive planning. Viable system diagnosis using Stafford Beer's Viable Systems Model (VSM), however, is the only methodology that also meets the first criterion, struturalist onto-epistemology, and will constitute the primary methodology adopted for the following analysis.

The viable systems diagnosis methodology is based in the assumption that organizational performance, and ultimately organizational viability, is closely tied to

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organizational structure which, in turn, must obey

cybernetic principles. Organizations that ignore or violate

these cybernetic principles tend to experience problems.

The VSM provides a means for analysis of an organization in

terms of those principles. This analysis, in turn, is used

to diagnose structural problems within the organization and

suggest corrective actions. For the purposes of this

analysis, the VSM will be used to examine the organizational

structures of government and society in terms of cybernetic

principles, not for the purpose of "diagnosis" but to gain

further understanding of the structural roles that are

involved in "public administration."

The Viable System Model

This section describes Stafford Beer's Viable System

Model, explains the philosophy and principles of viable

systems diagnosis, explains the general features of the

model, describes the five subsystems that comprise it, and

discusses some of the major critiques and limitations of the

model.

Description of the Viable System Model

Stafford Beer has derived the various features of the

VSM both through a set-theoretic model explained using

neurophysiological terminology instead of mathematics Beer,

1972), and through deduction from cybernetic first
principles (Beer, 1979). The model attempts to explain *"how
systems are viable* -- that is, capable of independent
existence"* (Beer, 1989, p. 11). The model has been
confirmed numerous times through a process of mapping a wide
variety of viable systems onto the model and confirming the
invariances defined by the model hold in all cases (Beer,
1989, p. 15). It has been applied to organizations ranging
from small engineering concerns and bakeries to the steel
industry, textile manufacturers, shipbuilders, publishing,
insurance, banking, transportation, health, and government
at all levels - cities, provinces, states and nation-states.
Beer, Espejo, and others attempted to apply the principles
of management cybernetics represented by the VSM toward the
complete reorganization of the public sector of the economy
in Chile under the Allende regime of the early 1970's
(Espejo, 1980; Beer, 1981).

Philosophy and Principles of Viable Systems Diagnosis

        Beer uses his VSM as a tool for diagnosing "problems"
of organizations, thus the phrase "viable systems
diagnosis." According to Beer, organizational and social
problems are characterized by interdependencies that arise
because of increases in complexity in organizations and in
our society. He believes that use of a model that is based

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in cybernetic principles is fundamental to any effort to deal with these complexities. Organizations are established to realize goals, but these goals must be continually reconsidered and revised in the light of an ever changing environment. This means that an organization must have the capacity to notice and respond to changes by questioning its assumptions, learning, and by assessing future scenarios.

The recommendations that evolve from viable systems diagnosis do not prescribe a specific organizational structure, but concern themselves with the essentials of organization and with the maintenance of identity. The Viable Systems Model, which is used for this diagnosis, aids the understanding of both vertical and horizontal interdependencies. The model also identifies sources of command and control that are spread throughout the structure and emphasizes the relationship between the organization, or viable unit, and its environment.

General Features of the VSM

A viable system is one that is able to adapt to a wide range of changes in its environment, both expected and unexpected and previously unobserved, while achieving enough stability to maintain itself as a separate system. When the environment is reasonably stable, the system is able to maintain itself in a dynamically stable state or within a

range of stable states. Should the environment change
drastically, the system can reorganize itself,
autopoietically, in order to achieve a new range of
stability. A viable system, then, is able to survive
substantial perturbations in its environment, changing its
overall structure and organization, while maintaining its
identity.

To understand the Viable Systems Model, it is first
necessary to understand the concept of *variety*. Consider
the following example. Every morning and evening a young
man stands at the subway entrance at L'Enfant Plaza in
Washington, DC. If it is raining, he sells umbrellas, if
the sun is shining, he sells sunglasses. As far as he is
concerned, his environment has a variety of two with which
he must deal - rain, or shine. If he happens to notice
that his potential customers consist of both males and
females and that each gender tends to prefer a different
style of sunglasses and umbrella, the variety of his
environment has increased to four, and he will be inclined
to respond by increasing the variety of his wares to four.
If he notices further that individuals, regardless of
gender, tend to prefer different styles of sunglass or
umbrella, the variety of the system formed by his customers
(as he conceives it) will have increased tremendously, and

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he will likely respond accordingly with an increase in the variety of product styles that he sells.

He might also notice that on some days it is neither sunny or rainy; that his potential customers also would buy flowers, regardless of the weather; or that there are potential customers in other locations. In each case, the variety of his system of interest increases as the information contained in his conceptualization of that system increases. His response to each increase in variety tends to be an equal response in his variety, or in the number of system states that he can present in order to influence or control his system of interest - his customers in this case.

In any organization that involves people, and that does not totally close itself off from the rest of the universe, the potential variety is exceedingly large, if not infinite. Managing or controlling such an organization consists of finding ways to control or contain variety.

An understanding of variety leads one quickly to an understanding of how impossible it is to manage an organization by selecting the most important variables in the system and formulating some kind of an equation or algorithm to show how those variables are connected. To the contrary, Ashby's Law of Requisite Variety specifies that

only variety can control variety (Ashby, 1964). As Beer

(1959) explained:

> "Often one hears the optimistic demand: 'give me a
> *simple* control system; one that cannot go wrong'.
> The trouble with such 'simple' controls is that
> they have insufficient variety to cope with
> variety in the environment. Thus, so far from not
> going wrong, they cannot go right. Only variety
> in the control system can deal successfully with
> variety in the system controlled."

Because no system of management can hope to cope with the

great magnitude of incoming variety, it must be blocked or

reduced at all costs. By the same token, any outgoing

management variety must be enhanced or amplified in some

manner, if the system is to remain viable.

Another concept that is necessary to understand in

order to understand the VSM is the concept of "recursion,"

which implies that a viable system can be found in the parts

of a viable system, which is itself part of another viable

system. The Department of Commerce, for example, can be

seen as a viable system which is part of the viable system

"Federal Government," which, in turn, is a part of the

viable system "American society," which, in turn, is a part

of the viable system "world," and so forth. The Department

of Commerce, itself, is composed of smaller parts that are

themselves viable systems, and so forth. The recursion

concept is particularly important, because it leads to a

view of organizations that is different from the traditional

hierarchical, bureaucratic view that results from use of mechanistic and organismic metaphors.

Finally, a key concept of the VSM is the idea that it models aspects of viable systems that are "invariant" (i.e., that are unaffected by all the changes surrounding it) from one viable system to another. This concept of invariance provides a counter to the argument that "government is different":

> "... the argument that this treatment 'does not apply to us' is always spurious, because the approach concerns only those factors that are invariant in all viable systems. The biggest red herring of all among these false contentions is the one that claims 'we do not make a profit'. That makes no difference to the structure of viability at all. True, it poses problems of measurement, and the fixing of criteria of success: these will be discussed later. But a hospital or a school or a government department has to produce itself, continuously and regeneratively, to maintain the identity that it has -- just like any other viable system" (Beer, 1985, p. 13).

Subsystems of the Viable Systems Model

Beer has identified five interactive subsystems (operations, coordination, control, intelligence, and policy) that are both necessary and sufficient for any organism or organization to maintain its independent identity among others in a shared environment. All of the systems that are not themselves viable systems at the next lower level of recursion are dedicated to achieving

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homeostasis, or stability, in the viable system's internal environment. In a business organization, for example, those subsystems that are not themselves profit centers which produce the company, such as those involved in financial, cost, quality, or inventory control, are examples of homeostatic regulators, which are not, themselves, viable systems. The Office of Management and Budget, the Office of Personnel Management, and the General Services Agency are examples within the Federal Government of organizations whose primary function is homeostatic regulation.[2]

The first subsystem, called the "Operational" or the "Implementation" System (or System One), consists of those elements that produce the system, its autopoietic generators. There may be a number of Operational Systems, each of which is itself a viable system. Each Operational System consists of three activities, management, which is embedded in operations, which, in turn, is embedded in an environment. Beer teases these three activities apart so that the diffusion processes that involve the exchange of variety among them may be considered (See Figure 5.3). The variety presented to the operational element by the environment tends to be much greater than that available by the operational unit, since the operational unit cannot in practice respond to every possible environmental state. The

System One

System One
Environment

System One
Operations

System One
Management

System One
Dissected

System One
Environment

System One
Operations

System One
Management
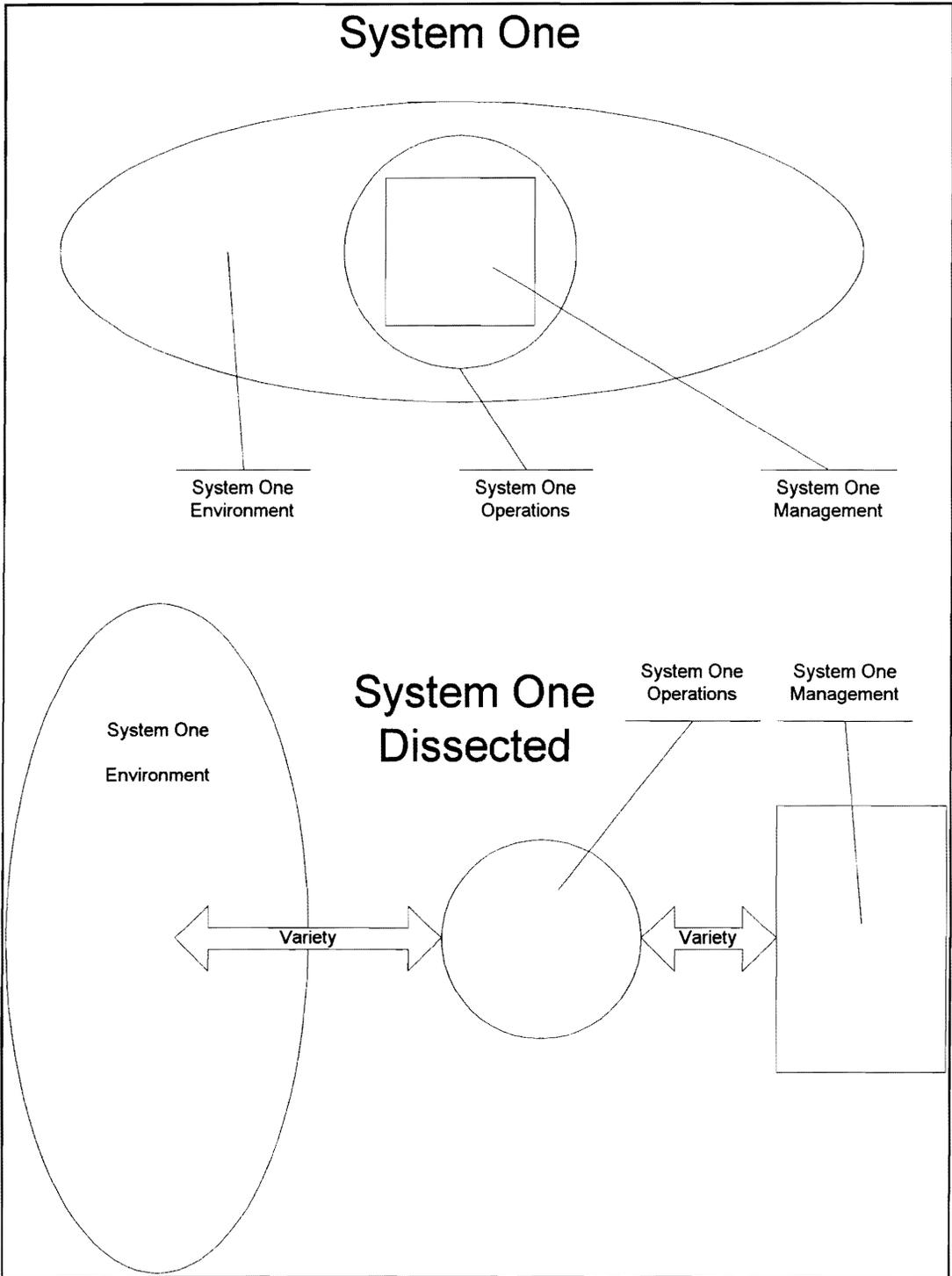
Variety

Variety

Figure 5.3 System One (Operational System) of
the Viable systems Model

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variety presented to the management element by the operational unit is necessarily much greater than that available by the managerial unit, since no organization can provide a manager to monitor every possible action contributing to operation. Some combination of variety attenuators and/or amplifiers must exist in accordance with Ashby's Law of Requisite Variety, which states that only variety can absorb variety. It is important to recognize that such attenuation or amplification may be consciously provided for or not, but it will ultimately exist nevertheless. The VSM, then, is a tool for examining what an organization has (or has not) done to manage variety, or to manage its own complexity.

The Coordination System (System Two) is an anti-oscillatory system that dampens the inevitable oscillations among the parts of the system (See Figure 5.4).

This system is necessary and is always present because Operational Systems interact not only with their environments, but with each other. This leads to a situation in which every element continuously tries to adjust to every other element, leading, in turn, to oscillations which must be damped down else the viable system will destroy itself. An example of a Coordination System function is the Presidential Budget, which was established, at least in part, to dampen, or restrain,

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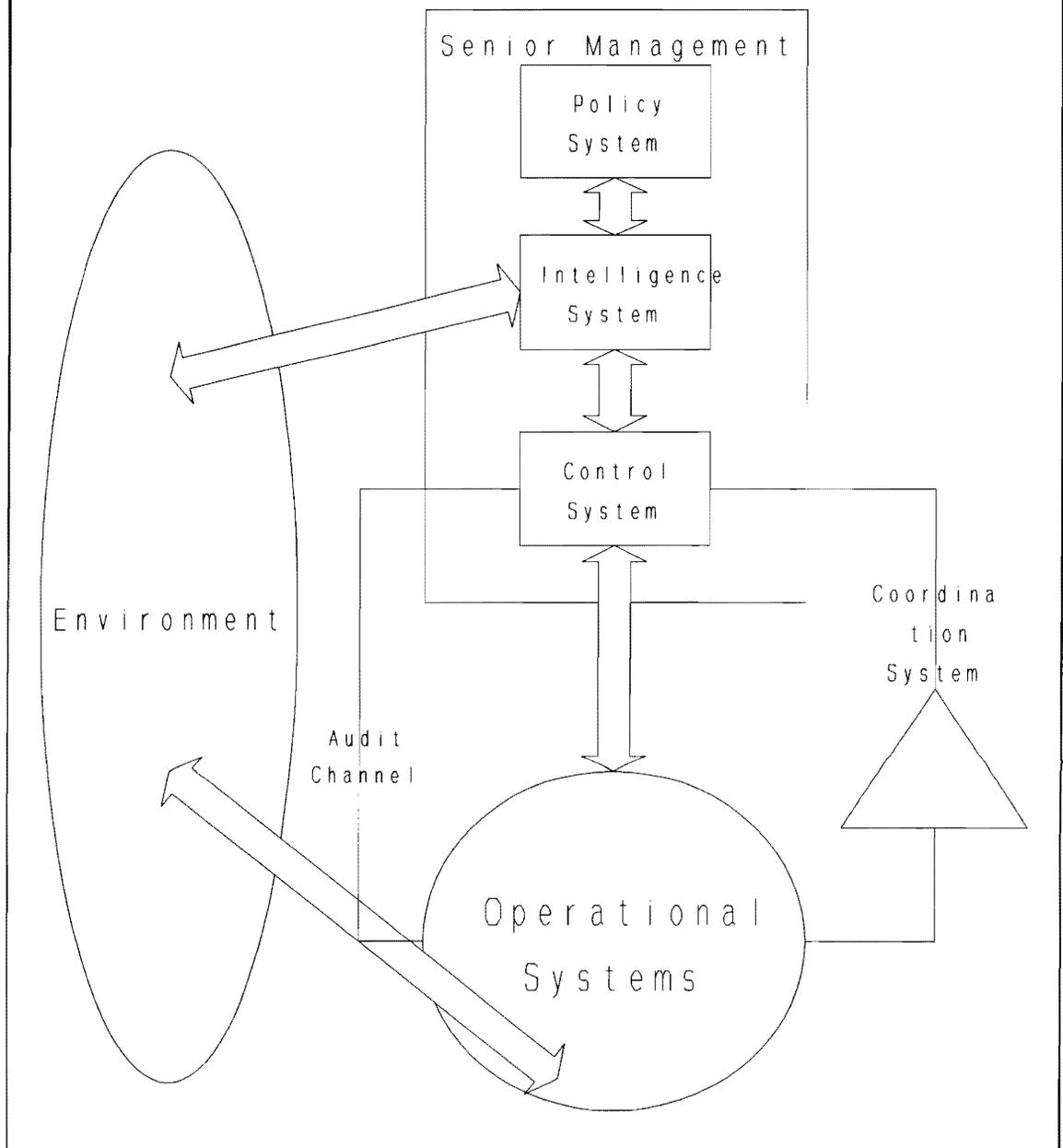
Figure 5.4   The Five Subsystems of the VSM

competition among Executive Branch agencies for funding by
Congress. The modern Congressional budgeting process
provides the same sort of dampening effect within the
Legislature, reducing the inclination of various
appropriation committees to compete without restraint for
funds.

A Control System, or System Three, provides a control
function whose ultimate purpose is to maintain *internal*
stability. In organizational terms, it interprets policy
decisions of higher management and insures policy is
effectively implemented, allocates resources to the
Operational Systems, and conducts audits using an auditing
channel established for that purpose (refer to Figure 5-4).
Organizationally, the Control System is normally thought of
as a function performed by the senior management of the
viable system in focus, (generally referred to as "Recursion
One"). Senior management is unable to match the variety
generated by any of the Operational Systems, and certainly
cannot match the variety generated by them all. This leads,
Beer argues, to a theory of autonomy, or of
decentralization, that is built on the Law of Requisite
Variety, and not on political theory (Beer, 1985, p. 37-38).
The variety balancers available to senior management consist
of 1) legal and/or corporate requirements, 2) resource
bargains (by which the activities to be undertaken by

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Operational Systems and the resources available to do so are negotiated), and 3) accountability.

Examples of Control System "senior management" variety balancers in the Federal Government would be the legal requirements established by Congress (which cannot hope to match the variety of the various agencies of the Executive Branch) that establish the various agencies and provide the overall legal structure within which they must operate. Appropriation and authorization bills represent "resource bargains" which define with varying degrees of specificity what activities the agency (a System One) will undertake and the resources provided for these ends. Despite complaints of Congressional micro-management, the agency must, of necessity, be given a great deal of autonomy since no Congressional committee or subcommittee can possibly obtain enough variety to match that created by the agency. Finally, the Congressional oversight function, when it is exercised, is an exercise of the System Three accountability function, with GAO providing an excellent example of an "audit channel."

The Intelligence System (System Four), also a senior management function, gathers and reports on relevant information about the system's total environment. Each Operational System monitors and reacts to its own micro-environment, in order to keep its day-to-day operations

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going. The total environment of the system in focus is far
more, however, than just the set of micro-environments
relevant to its Operational Systems. While the Control
System represents those functions in senior management
involved with the "here and now," the Intelligence System
represents those functions involved with the "outside and
then." System Four is also responsible for providing self-
awareness of the system in focus. To do this, it provides a
model of the organization's environment, and of the
organization, distributes environmental information upwards
or downwards in the organization as appropriate, and brings
both internal and external information together in order to
provide an environment for decisions. The Control and
Intelligence Systems must interact homeostatically according
to Beer's Axioms of Management that define the manner in
which each system must dispose of variety. A governmental
Intelligence System might be represented, in part, by the
sensitivity that the President and Congress develop to the
environment as represented by public opinion.

The Policy System, System Five, has overall
responsibility for policy, responding to signals that have
been filtered by the Operational, Coordination, Control, and
Intelligence Systems. It also arbitrates between internal
and external demands on the organization represented by the
Control and Intelligence Systems and represents the

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essential qualities of the entire viable system of interest

to systems within which it is embedded. The Intelligence

System transmits urgent environmental information and urgent

information from the Operational, Coordination, and Control

Systems to the Policy System, and alerts it to the

importance of the information via an "algedonic" signal. It

is the task of System Five to provide logical closure of the

system in focus and, thereby, to establish its identity:

> Nominating the components of System Five in any
> application is a profoundly difficult job because
> the closure identifies self-awareness in the
> viable system. 'What business are we in?' asks
> the Manager. But who are 'we'? Shareholders,
> employees, managers, directors, customers, taxmen,
> environmentalists . . . all these have different
> answers to offer (Beer, 1989, p. 25).

The Policy System is intimately involved with the

concept of *purpose*, and one's identification of such a

system will depend strongly on the "purpose" attributed to

the system by the observer. In practice, the role of the

Policy System tends to be that of monitor of the System

Three-Four (Control-Intelligence) interaction to insure that

they do not enter into uncontrolled oscillation. Examples

of Policy System functions might be the function of the

Constitution as interpreted by the Supreme Court in cases of

Executive/Legislative conflict, or the function of the

populace as the ultimate arbiters of the legitimacy of

governance.

Viable System Model

Recursion Zero Management

System Five

System Four

System Three

Accountability

Recursion Environment

Variety

System 3* (Audit)

Resource Negotiations

System 1a Environment

Variety

System 1a Operations

Variety

System 1a Management

Two

Legal and Corporate Requirements

System Two

System 1b Environment

Variety

System 1b Operations

Variety

System 1b Management

Two

System 1c Environment

Variety

System 1c Operations

Variety

System 1c Management

Two

Recursion Zero Operations

Figure 5.5   The VSM - Recursions Zero and One.

The viable system of interest interacts with its

environment through its Operational and Intelligence Systems

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only. The Operational System interactions, however, are
with environments that are peculiar to that Operational
System. These local, peculiar environments are subsets of
the local environment of the viable system of interest. As
such, they are less than the total environment for the
system in focus, and are in reality the environment of the
whole system in focus at the next lower recursion, Recursion
Two. These characteristics of embedded viable systems
follow necessarily from the recursivity which demands that
each recursion is an exact topological replica of all others
(See Figure 5.5). Further characteristics of the VSM and
elaboration of the subsystems will emerge as the governance
model is developed and explained.

Critiques and Limitations of the VSM

Several critiques and limitations of the VSM need to be
addressed at this point. In particular, Flood and Jackson's
critique of the use of the VSM for organizational diagnosis
(1991, pp. 110-113) is summarized here in order to highlight
the strengths and weaknesses of this approach.

Flood and Jackson argue that the cybernetic model, as
theory, provides a rich exploration of the logic of brain
and organismic metaphors, but neglects culture and power.
As such, it has little to say about the social processes
that go on in organizations and about issues of culture,

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politics, and power struggles that go on in enterprises. While it may seem an especially serious oversight for a model of governance to neglect or ignore politics, these are *not* drawbacks from the standpoint of this analysis which, as has been already emphasized, deals primarily with the structure of governance and the role that public administration plays within that structure. Issues of politics are, obviously, extremely important aspects of governance that must be acknowledged. They are not, however, issues of importance here. The intent of this analysis is to view the theoretical problems of public administration through a particular "lens" - the *brain* metaphor. As such, it excludes, to the extent practical, consideration of *politics* (and *culture*) metaphors in order to concentrate on the implications of the *brain* metaphor. Any complete "theory" of public administration, however, seems likely to be based in some combination of *brain, politics*, and *culture* metaphors.

The VSM has also been faulted for neglecting the purposeful role of individuals in organizations and of goal setting. Flood and Jackson contend, however, that, while the model does not explicitly address the process of goal setting, neither does it reject the existence of such processes. To the related charge that the VSM ignores the

fact that people - often the basic elements of a viable

system - have free will, Beer replies:

> *People* (they say) have free will. Yes, maybe; but
> people also have constraints laid upon their
> variety by upbringing, or by the roles that they
> agree to play in a social unit like a firm. It is
> true that, for example, the liver cannot resign
> and be replaced by one less gnarled, but what
> about it? What matters is the functioning of an
> element, under whatever constraints that the job
> entails: not the identity of the element itself
> (Beer, 1989, p. 20).

Along with the charge of underplaying the purposeful

role of individuals, it has also been argued that the VSM is

likely to lead to autocratic management within

organizations. If this is the case, the VSM would be

extremely suspect as a model of governance, since it would

be inherently incompatible with our concept of a democratic

society. Beer's response to this charge is that the model

requires only the degree of control over individual freedom

that is required to supply cohesiveness in a viable system.

Flood and Jackson are not totally convinced, however, and

caution "that the model depends for its proper use and

functioning on social conditions which it does not itself

sufficiently seek to engineer -- a democratic milieu" (Flood

and Jackson, 1991, p. 113).[3]

More recently, however, Flood has taken a much more

positive view of the compatibility of the VSM with concepts

of freedom, arguing that Beer:

has a design for freedom in his viable system
model. In 1973 he pre-empted and smashed the
arguments to be leveled by the critics of his
organizational cybernetics, who still fear
autocratic dimensions of Beer's work.
Unfortunately Beer's 1973 masterpiece, explaining
that autocracy does not have to be the case, has
been left in the wilderness" (Flood, 1993, p. 8).

Flood is referring to Beer's book <u>Designing Freedom</u> (Beer,

1973) in which he argued that organizations (and societies)

fail because they disobey the laws of variety attenuation.

Beer argues that loss of freedom results from loss of

control of variety attenuation. An organization, to be

viable, must supply the five variety management functions

that are identified by Beer's five systems. These functions

- Operations, Co-ordination, Control, Intelligence, and

Policy (System Five)- occur recursively throughout the

organization. A human being immersed in a viable

organization *must* trade potential freedom so that the

organization can be viable. This is necessary because

individuals cannot know and understand everything that is

going on everywhere in the organization and must, therefore,

receive instructions to do things, which limits their

freedom. People are continually choosing between

organization or anarchy, or between efficiency and freedom.

But anarchy, in our current complex culture, itself

represents loss of freedom, thus some balance between

organization and anarchy must represent the maximization of

freedom. As Flood explains:

> With Beer we have a model of any viable
> system. In order to maintain viability the total
> system must have a central regulatory model. The
> model ought to be created by democratic
> consultation but cannot dodge the truth that it
> will constrain variety in the parts. Some freedom
> has to be given up. Recursion dictates that the
> precise form of variety attenuation is a matter
> for local decision makers. We have a say in what
> we are prepared to give up. In short, people only
> need to give up as much freedom as is necessary to
> maintain viability of the whole. The whole
> returns a greater amount of freedom to people
> because of its efficiency, cohesion and guarantee
> of continuity -- in short, I mean viability
> (Flood, 1993, p 10).

Issues of individual freedom in our consideration of

governance are not appreciably different from similar issues

as they apply to organizations. The social contract is a

trade-off between freedom, expressed as the *unrestricted*

ability to make any available choice, and a better

lifestyle, expressed as a lessened freedom to make *any*

available choice, but an attendant increase in available

choices. The increase in choices is the result of greater

social efficiency, cohesion, and continuity - in other

words, the establishment of a viable social system.

In response to the argument that the VSM is autocratic,

or anti-democratic, we must conclude that this is simply not

the case. The model is not at all incompatible with our

principles of democracy, although we should exercise due

caution in its application to keep in mind that the maximization of freedom consistent with the viability of our society is the ideal goal.

Chapter Summary

This chapter has completed the second, or "choice" phase of the TSI methodology as applied to the problematic situation under investigation - the legitimacy and role of public administration in our American system of governance. During the "choice" phase, the approach of "A System of Systems Methodologies" was used to examine the problem context as it applied to the issue at hand. It was concluded that the appropriate context for the issue of governance and the role of public administration is one that is basically complex-unitary, but with strong elements of the complex-pluralist ideal type. Only one systems methodology is available that meets this problem context criterion, and that also meets the criterion established in Chapter Three that the methodology be based in structuralist ontology and epistemology, as well as the criterion of Chapter Four that the methodology exhibit strong elements of the "brain" metaphor. This methodology is Stafford Beer's VSM.

The general features of the VSM have been described along with a summary of the features of its five subsystems.

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Several critiques and limitations of the VSM have been discussed. In particular, the criticism that Beer's VSM is incompatible with ideas of freedom was discussed and discounted, provided we exercise some care in the use of the model.

Notes to Chapter 5

1. See, for example, the detailed arguments for grounding of the administrative state in the Constitution, and for the existence of "regime values" based in Constitutional interpretation by Rohr (1986, 1989, 1990).

2. Although these agencies are viable systems from the perspective of the next higher viable system "government," it is possible to analyze the OPM (for example) as a viable system in its own right. In that case, it would be seen as an "Operational System" of a viable system (that we might term "intra-governmental organization") whose "aim" is to provide personnel regulations to an "environment" composed of governmental organizations. It is not, however, a viable system when considered from the perspective of the viable system "government." Similarly, when viable system under consideration is "government," neither the Executive, Congress, or the Courts are viable systems, although each can be analyzed as a viable system from another perspective.

3. In this respect, it differs from the Blacksburg perspective, which is an explicit attempt at such engineering.

CHAPTER SIX

A VIABLE SYSTEMS MODEL OF GOVERNANCE

"The 'brain' or 'creative mind' can serve as a model.
I refer here, for example, to Graham Wallas' distinction
between 'will' and 'thought' organizations and his approach
to the civil service as a problem in getting it to act as a
thought organization -- to get 'new ideas' or do 'creative
thinking.' Mary Parker Follet also comes to mind in this
connection, because of her Quakerish sense of 'creation'
through collaborative effort. And there are also Norton
Long's recent essays on how the getting and sifting of new
ideas can be 'built into' administration" *(Waldo, 1956, p.*
44).

Chapter Four addressed the first, or "creativity," phase of the Total Systems Intervention meta-methodology, and Chapter Five carried the analysis through the second, or "choice," phase. This chapter continues the use of the TSI meta-methodology through its third, and final "implementation" phase (see
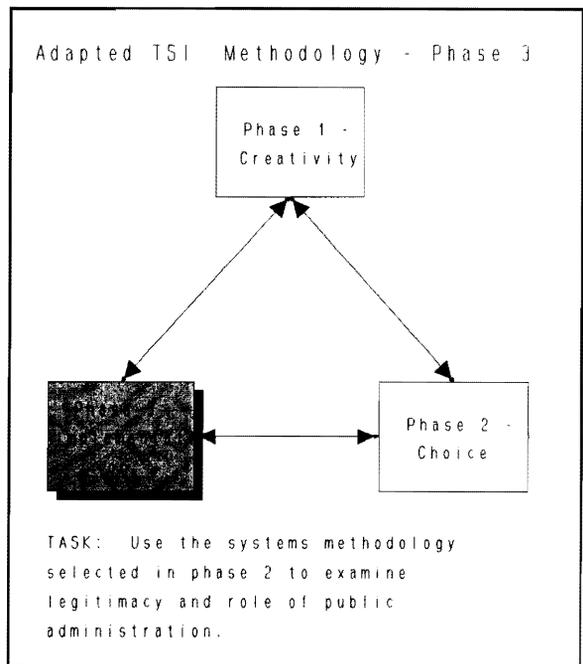
Figure 6.1 TSI Phase 3.

Figure 6.1), by using the systems methodology selected in the previous ("choice") phase, the Viable Systems Model, to model the Federal system of government. Once this task has

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been accomplished, the next chapter, Chapter Seven, will consider the "results" of our use of the TSI methodology, by examining the implications of the model and use of the *brain* metaphor for public administration theory in somewhat more depth than we were able to do in Chapter Four, using the *brain* metaphor alone. The final chapter, Chapter Eight, will build upon all the previous efforts in an attempt to "reframe" public administration theory.

This chapter explores Stafford Beer's Viable Systems Model with "government" as the recursion level of interest and the "state," or our system of "governance" as the next higher (or meta) recursion level. It then examines the model's implications for "public administration" at lower levels of recursion.

Overview of the Governance Model

The groundwork has been laid for examining governance through the framework of the VSM. The system of interest, Recursion One (R_1)[1], is our formal system of federal government, this system is contained within Recursion Zero, R_0, which is the process of governance within our society. Recursion One (R_1), in turn, contains within it the various administrative departments and agencies of government as

lower recursions, R_2. Subsequent sections will consider
each recursion level in numerical order (R_0, R_1, R_2).

According to the VSM, every viable system has a
purpose, or aim, which includes, by definition, its own
viability. We start construction of the model, therefore,
with a statement of the aim of government. Such an aim,
grounded in the concept of viability, and in the democratic
values of our regime was articulated many years ago by
Abraham Lincoln, at a time when the viability of the nation
was clearly in doubt: "that government of the people, by the
people, and for the people shall not perish . . . ."

Some readers may object that "mere viability" is a
trivial aim of government, and that viability is, at any
rate, already implied in the concept of "viable system."
While it is unquestionably true that the aims of government
must encompass far more than mere survival, it is also
unquestionably true that it must encompass *at least* that
much. And, since any viable system *must* (by definition) be
viable, then viability *must* be an aim of that system (given
that the aim of a system is what it does).

Moreover, and of far more importance, reflection on the
implications of Lincoln's statement of aim will reveal that,
in addition to calling for survival, it is a quite powerful
statement of purpose. Indeed, it can be argued that any

other statement of governmental purpose, be it the Preamble
to the Constitution, or a political party platform, is
likely to be but an elaboration upon, or an interpretation
of, the concept of government "of," "by," and "for," the
people. Lincoln's aim puts a special emphasis on the
preservation, over the long term, of government's ability to
accomplish and support those tasks. In other words, it
expresses the ultimate reasons for government's existence -
the reasons *why* government must maintain viability - to
maintain the viability of our democratic society. It is
immaterial what specific form that society takes - that is
not the function of government - provided that the viability
of the over-all system of democracy is maintained.

This statement of aim also implies that government, at
each level of recursion below R_0, or our society, must
strive to maintain its viability *only so long as it permits
and supports the viability of the next higher recursion*.
This aim has embedded within it Beer's concept of the trade-
off between freedom and the need for efficiency and
stability. A prime task of government at all levels of
recursion, therefore, is to manage this trade-off within the
resources and restraints available to it, *not only for the
immediate benefit of the citizenry, but for the ultimate
benefit of future society.*

It is important for the reader to keep in mind that what is being examined in the VSM is *variety*, or information flow, and its management, and not organizations. Each of the Systems which make up the VSM is a function involving the communication, amplification, and attenuation of variety. In an organization, or in government, it may be that an organizational entity, itself a viable organization, is closely identified with the performance of particular system functions, but it is a mistake to equate functions and viable organizations. Nor is it entirely accurate to equate the systems that comprise a viable system with previous accounts of what a manager does.

There should be no confusion between the systems of the VSM and the POSDCORB (Planning, Organizing, Staffing, Delegating, Coordinating, Organizing, Reviewing, and Budgeting) model of administration which professed to classify the things an administrator does. The Operational, Coordination, Control, Intelligence, and Policy (OCCIP) systems of any viable system are concerns of any manager, but not necessarily a description of the actions a manager takes. Rather, they are "shorthand" methods for describing the much richer concepts of variety and complexity as they must apply to any viable system. The OCCIP systems describe what are in essence communication channels for variety.

If the organization is a viable one, these communication channels exist in some form or another, and variety in these channels is either amplified or attenuated so that the variety communicated is equally balanced in each direction. This is true regardless of whether they are deliberate, "designed," channels, or unintended, accidental ones. If they are deliberate, they can be designed with an intended aim for the organization in mind. If they are unintended channels, the "real" aim of the organization is likely, also, to be an unintended one.

It is the primary task of management, according to the VSM, to manage, or to design, these communications channels in accordance with the aims of the system. The task of the manager who understands the VSM is not so much to "coordinate," but to design and manage the coordination system so that it supports the organizations aims. If he does not do so, a coordination, or anti-oscillation, channel will still exist, but it is unlikely that it will support the aim of the organization. It will either reduce the variety of interactions between Operational Systems too much, or it will not reduce it enough, or it will restrict the variety in ways that are incompatible with the aim.

Of far greater importance to the argument presented here is the fact that the POSDCORB model misses the essential concept of *recursion*. Each person in a viable

system (despite his or her "official" designation) is simultaneously a part of the management system of his or her *own* recursion, a part of the operating system of the next higher recursion, and a part of the meta-system of the next lower recursion. The concepts, therefore, of *manager* or *administrator* are suspect in the VSM, since they represent very limited perspectives of the place and function of individuals (or of organizational entities, for that matter) within a viable system.

The following paragraphs represent a rough mapping of the organizational elements and processes of the Federal government onto the various parts of the VSM. The reader may easily disagree with many of the specifics of this mapping, especially those dealing with exactly where the various functions performed by the Executive and Congress ought to be mapped.

The checks and balances built into the Constitution, could have been mapped onto the VSM with reasonable ease when the Constitution was adopted. The House of Representatives, with its responsibility for initiation of appropriations, was given primary responsibility for day-to-day management, which the VSM identifies as the Control System, System Three. The House, however, shared these responsibilities with the Senate and the President. The Senate, with its longer terms and longer range view, had

primary responsibility for the Intelligence System, System Four, which it shared with the House and the President. The President had primary responsibility for Coordination, System Two, which he shared (primarily) with the Senate. In addition, the President was given direct Operational (System One) responsibilities over foreign policy and the military.

As government has become more complex, Congress has, of necessity, delegated some of its Control System responsibilities to the President or other portions of the Executive Branch. Much of the political history of this century deals with struggles between Congress and the President over control of Systems Three (Control) and Four (Intelligence).

A detailed analysis of a particular aspect of government would require development of a detailed, accurate VSM "map," which could be used to diagnose and understand administrative problems arising from ineffective attempts to understand or deal with variety. For the purpose of this investigation, however, such detail is unnecessary, since we are only interested in adding to our understanding of the role of public administration in general. The following sections will look more closely at three recursions: the American System of Governance, the Federal Government, and the Administrative Agencies.

Recursion Zero: The American System of Governance

At the recursion level of Society, the people
constitute, ultimately, Society's Operational Systems (Beer,
1989, p. 22).   They do so, however, recursively, by
producing communities, businesses, local governments, and
other institutions of all sorts.   To put it another way, if
you start with individuals as a level of recursion, you can
define successively higher recursion levels as those
individuals form families, groups, business enterprises, and
the like.   At some level of recursion, they produce the
American system of governance, which includes the Federal
governmental system as one of its Operational Systems.   It
is the level of recursion identifiable as "the American
System of Governance," that has been selected as R_0 for this
analysis.   For R_0 (see Figure 6.2), the Operational System
of interest is the Federal government, but other Operational
Systems include the various state governments (which, in
turn, include city and local governments, and so forth).
Coordination System functions are primarily represented by
the Constitution and the Courts, which act as a regulatory,
or control agents on the actions of government.   Control,
Intelligence, and Policy functions, which combine to
represent the "senior management" metasystem at this level
of recursion, can be thought of as the polity as it forms

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itself into interest groups, lobbies, forms and changes
public opinion, establishes political parties, elects
representatives, and so forth. An important part of the
audit function at this level is performed by the press.

Recursion One: The Federal Government

If the Operational System of R_0 that represents the
Federal government is expanded to R_1, its Operational
Systems will consist of all of the administrative agencies
and departments, primarily associated with the Executive
(see Figure 6.3). The Operational Systems of R_1, then,
represent the operations of governance that are often
considered to be "Public Administration" in that they have
to do with the day to day operation of government in
delivering services to, or regulating the conduct of
society.

There are a number of organizations such as the
Government Printing Office, the Postal Service, and the
Federal Reserve System, that are not located in the
Executive Branch, or are virtually independent of the
Executive. These organizations, while apparently anomalous,
still qualify as Operational Systems.

Two special Operational Systems of R_1 should be noted,
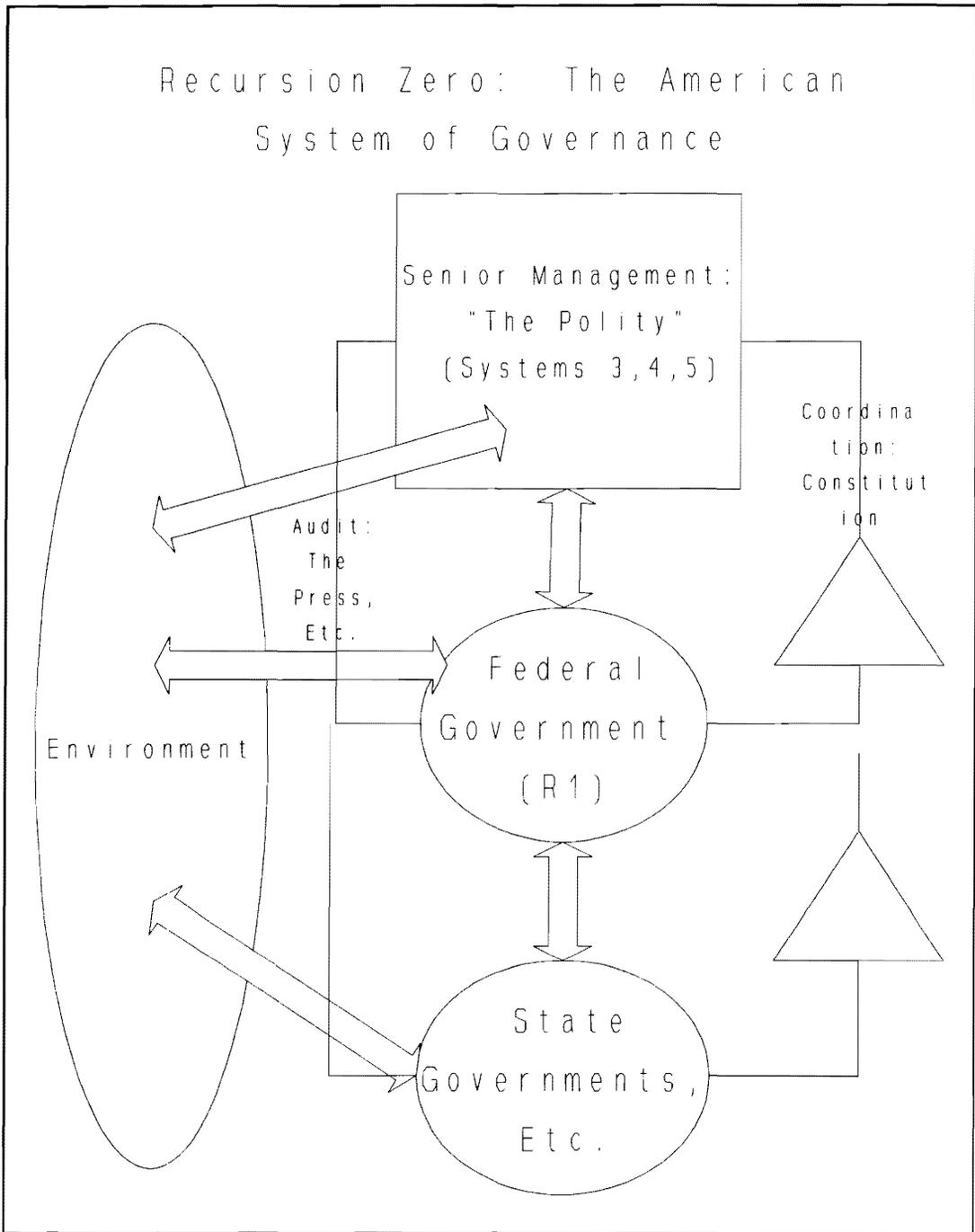for which the President has been given direct Constitutional

Figure 6.2   Recursion Zero

responsibility.   They include the armed forces when the
President acts in the capacity of Commander-in-Chief, and

the foreign and diplomatic services when the President acts

Recursion One: Federal Government
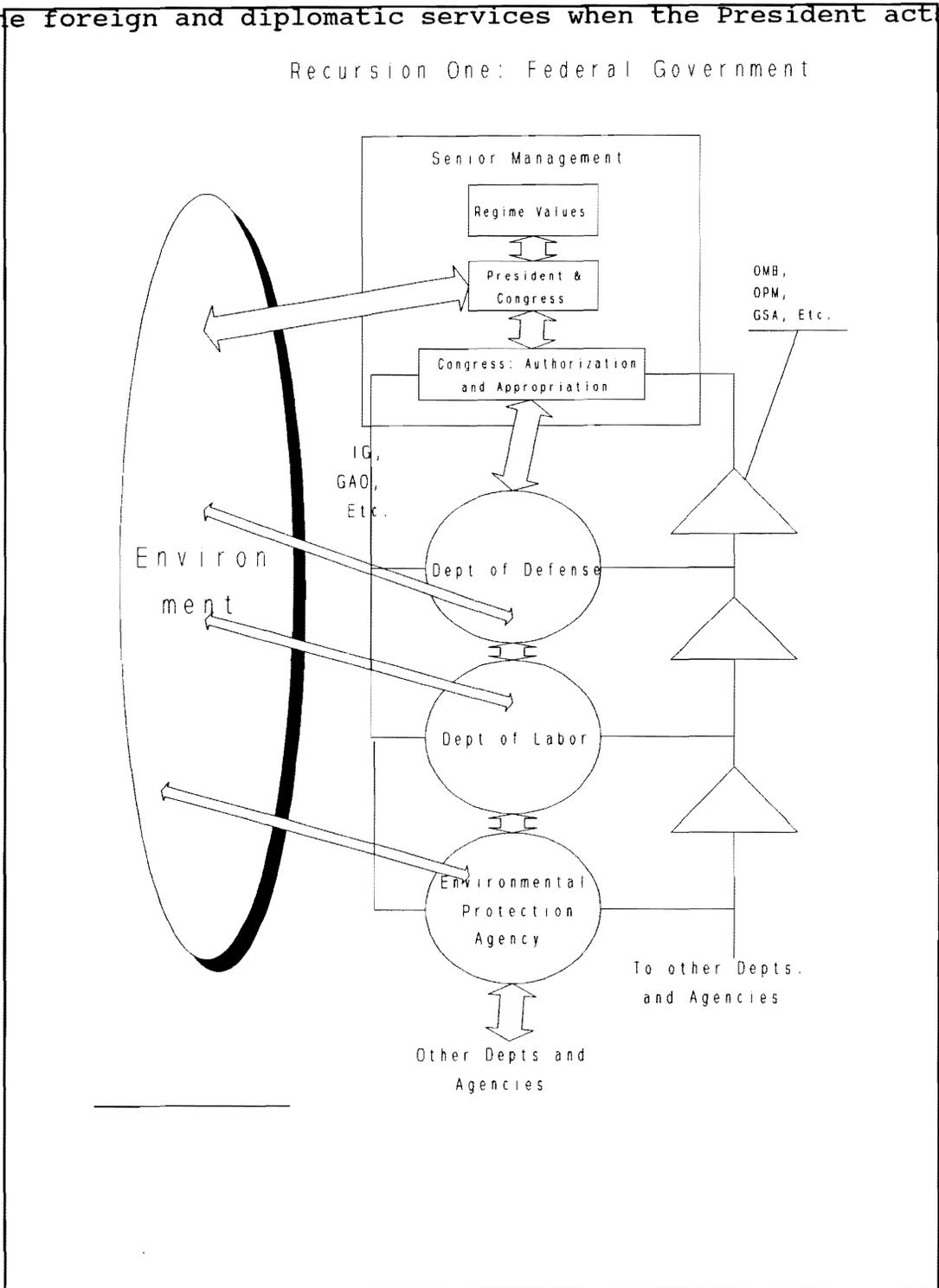
Figure 6.3   Recursion One

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in his capacity as Chief of State. Otherwise, the President is not, insofar as the VSM is concerned, a part of System One, nor is the President, perhaps surprisingly, assigned responsibility for the day-to-day management functions of the Control System, System Three, but of the Coordination System, System Two.

The President, by reason of the Constitutional mandate to request reports from department heads and to "take care that the laws be faithfully executed" has been assigned responsibility for the Coordination System functions, and some of the audit functions attendant to the Control System. The Coordination System, which consists of a "regulatory center" for the system-in-focus, interlinked with regulatory centers for lower recursions, is in touch with the all the Operational Systems as a complete entity. The Coordination System may be thought of "as an elaborate interface between Systems One [Operations] and Three [Control]. It partakes of both" (Beer, 1981, p. 172).

Perhaps the most important parts of the Coordination System is the practice of Presidential appointments to positions of authority in departments and agencies, and many of the functions performed by the Executive Office of the President. These provide some assurance that each agency, while ultimately obligated to, and constrained by, Congress in terms of accountability, requirements, and resources, is

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directed according to an overall, coherent, anti-oscillatory
policy established by the President.

Other examples of Coordination System functions
include:

1) budgeting functions managed by OMB, to the
extent that they exist to prevent individual
agencies from competing with each other for
appropriations from Congress;

2) centralized purchasing functions performed by
GSA to the extent that they exist to prevent
individual agencies and private organizations from
competing with each other for the same goods and
services in a way that drives up the overall cost
to government; and

3) centralized setting of pay scales, personnel
functions, and personnel regulations to the extent
that they exist to prevent agencies from competing
with each other (and with the private sector) in a
way that drives up overall labor costs.

The potential for instability in each of these cases is
represented by the possibility of the various departments,
which are Operational Systems, competing with each other for
limited resources, or by possible ineffectiveness or
inefficiency caused by lack of coordination of efforts. For
the Coordination System, System Two, to perform its function

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efficiently, it must provide only enough regulation to prevent such oscillations, and no more. Examples publicized by Vice President Gore and the National Performance Review (Gore, 1993), such as the steam trap procurement problem, and the excessive regulation for procurement of ash trays are prime examples of overcontrol by System Two.[2] A great many of the recommendations of the National Performance Review were directed at reducing overcontrol by portions of government's Coordination System.[3] In addition, recommendations directed toward "eliminating regulatory overkill" (Gore, 1993, p. 32) involve reducing overcontrol not only by government's own Coordination System, but also overcontrol by the Coordination System functions that government provides for society. On the other hand, recommendations of the National Performance Review that were directed at cross-departmental initiatives to address issues such as illegal immigration, or debt collection, or to foster "one stop shopping" for government services are examples of actions directed toward establishing additional functions within government's Coordination System.

The above list is intended to be representative of some of the more important anti-oscillatory, or coordinating, functions that comprise the Coordination System. The list is by no means exhaustive, however. A host of inter-agency

committees exist primarily to perform as a part of the Coordination System, and the President and the Office of the President act as the Regulatory Center for Coordination System functions as well as the designers of Coordination System mechanisms.

Congress often involves itself directly in the design and establishment of Coordination System functions. For example, the Congressional requirement for the President to submit a proposed budget is an example of a Congressionally designed System Two function assigned to the President as Regulatory Center. It seems clear that, at least, one of the primary roles of the President (and *the* primary role insofar as the traditional view of "public administration" is concerned) is as the Regulatory Center for this recursion level, responsible for Coordination System functions.

Under the Constitution, Congress maintains primary control over resources and their use via authorizations and appropriations, and over the legal requirements that bind the various Operational Systems into the system of governance and restricts their variety. In addition, the Operational Systems remain ultimately accountable to the Congress via Congress' oversight function. This clearly identifies Congress as performing System Three, or Control System functions, for this recursion level. The Control System is concerned with the "inside and now," and deals

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with self-organization and autonomic[4] regulation of the

viable system. Congress retains ultimate decisionmaking

authority over organization of the operational elements of

government and their regulation through its authorization,

appropriation, and oversight functions. The President's

veto power does not clearly establish him as part of the

Control System, since Congress still has the ultimate power

of decision. Rather, that power constitutes part of the

President's System Four (Intelligence System) function, as

will be seen later. Many of the sporadic audit functions

for the Control System are performed by the Government

Accounting Office and the various Inspector's General.

The Intelligence System, System Four, deals with

"outside and future" issues. It is the primary "observer"

of whatever constitutes the "total" environment at that

recursion level. The system has other interrelationships

with its environment through the Operational Systems, but

these are linkages to local, or sub-environments, not to the

total environment.[5] System Four also is self-referential,

in that it contains a recursive model of the viable system.

It is this infinite regression of self-images that makes the

system self-aware (Beer, 1985, p. 116). The Intelligence

System's links to the external environment are enforced by

the Constitutional requirement for elections of both members

of Congress and of the President. If Congress's "routine"
authorization, appropriation, and oversight function
comprises the bulk of the Control System, its overall
legislative function, exercised in response to (or
"representing") the environment, constitutes a major element
of the Intelligence System. But the President also has a
clear role in System Four as a representative of the
national electorate. The President's "bully pulpit"
provides him with a direct interface to the environment, and
allows him to act as a "spokesman" for that environment.
The President's veto power is an important part of his
Intelligence System function, allowing him to absorb, or
reduce, the variety available to Congress when his "out and
then" senses so dictate. An important Intelligence function
related to foreign policy, and the impact of foreign
environments is best examined with a somewhat different
version of the VSM, and is not particularly relevant to this
discussion.

The Policy System is essential for closure of the
entire system, completing its self-awareness. This System
can be thought of as the "ethos," or system of formal and
informal "rules" under which the other Systems function, and
which acts as the ultimate variety sponge for the viable
system. It can be extremely difficult to identify elements
of System Five in an organization, although the System can

be closely related to those characteristics that establish a viable system as an *institution*, rather than merely as an *organization*. At this level of recursion, System Five functions are performed by the combination of cultural and constitutional heritage that constitutes the system of "regime values" (Rohr, 1989) within which governmental decisionmaking is made.

Recursion Two: The Administrative Agencies

If the Operational Systems of R_1 consist of all the administrative departments and agencies, then the Operational Systems of R_2 (see Figure 6.4) consist of the organizational entities that comprise the operational portions of a particular department or agency. The senior management of the agency (the Secretary or Administrator, other political appointees, and senior civil servants) perform, or are responsible for most of the Control, Intelligence, and Policy Systems (Systems Three, Four, and Five) functions. The precise make-up of senior management, and the way that Systems Three, Four, and Five are themselves organized depends on the particular department or agency. The Coordination System will consist of internal coordinative processes and systems that are peculiar to that department, or that are designed to interface with the

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Coordination System of R_1. Similarly, the Control System's audit functions include both purely internal audit functions and those that must interface with R_1's audit functions. For example, the Inspector General may serve useful audit purposes for the agency's own audit system, while simultaneously being a part of Congress' audit function for R_1.

Although each Executive agency or department can be described ("mapped") in terms of the VSM and Operational. Coordination, Control, Intelligence, and Policy Systems, the *details* of that mapping are unique to each agency or department. In other words, each Operational System is itself a Viable System with it own Operational Systems and with Coordination, Control, Intelligence, and Policy Systems. The Coordination, Control, Intelligence, and Policy Systems, however, are uniquely tailored to absorb the variety which *that* viable system's Operational Systems must deal with as the result of their interactions with their external environments and their interrelationships with each other.

There is an important restriction placed upon the Coordination, Control, Intelligence and Policy Systems at this level, however. *The total variety available to each agency or department must be equal to the total variety*
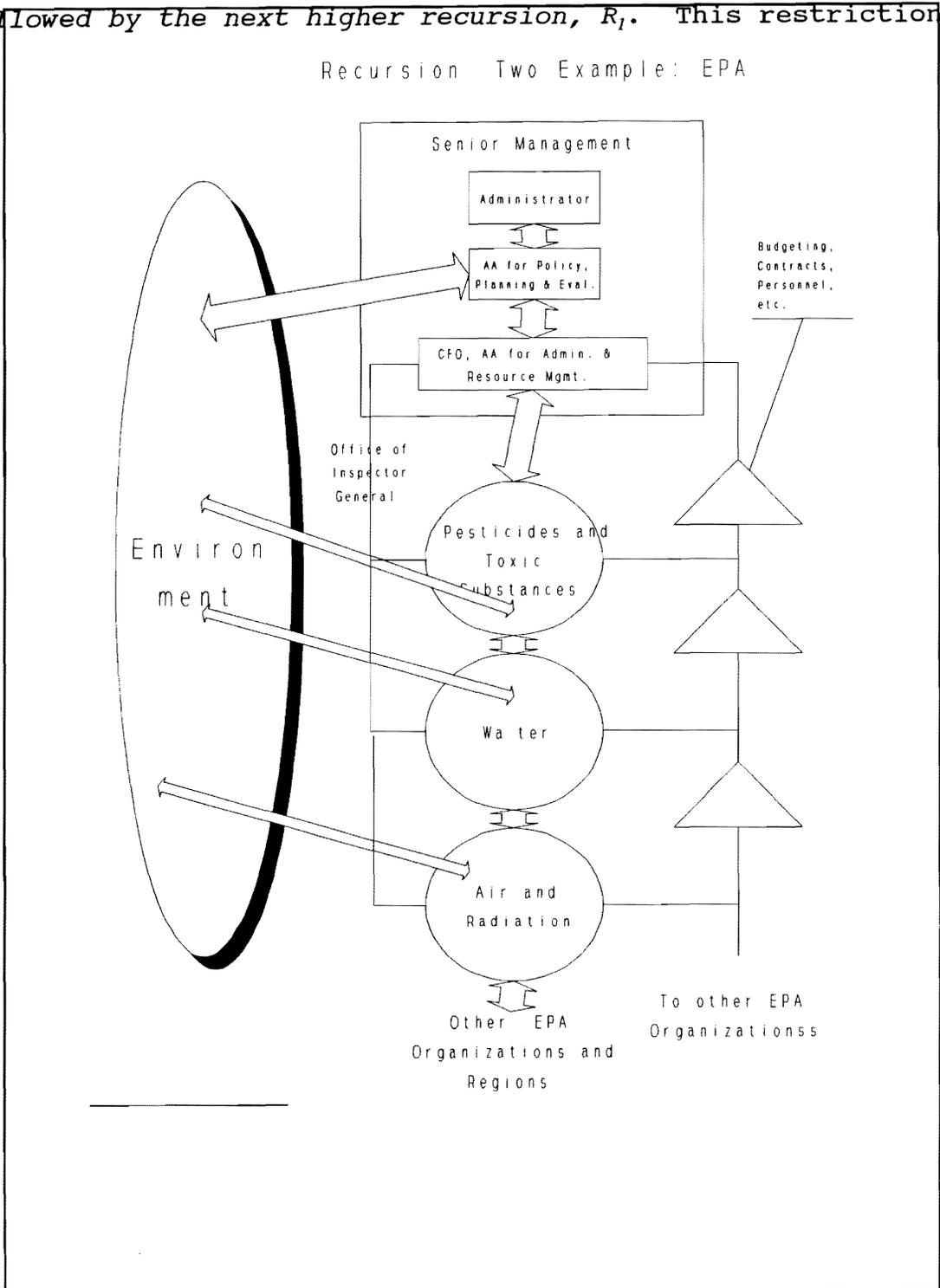
Figure 6.4   Recursion Two

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can produce undesirable results in either of two ways. As
the complexity of the environment increases, and the variety
available to an agency remains essentially constant, the
agency *must* match that variety. It will do it in one of two
 ways (or a combination of them). First, it will simply act
to attenuate the variety of the environment, by
"bureaucratically" treating many differing situations as
alike, or by "ignoring" important occurrences in the
environment. Alternatively, the agency can increase its
ability to respond to its external environment by
"unofficially" increasing the variety of the Coordination
and/or Control System channels connecting it to R_1. It
might do this, for example, by ignoring or violating policy
directives, regulations and laws, by acting according to
unwritten or unacknowledged policies (that may be
inconsistent with the policy desires of higher recursions),
or by similar deviations from the Systems imposed by R_1.
Neither of these results need occur as the result of
conscious decisions on the part of agency management. They
are the inevitable result of the laws of cybernetics.

In either case, the agency tends to be seen in a bad
light. If the former alternative results (attenuating the
variety from the environment), the environment, which
includes the public, comes to view that agency as

unresponsive, rigid, "bureaucratic," and unaccountable. If
the latter alternative, increasing internal variety, is the
result, those responsible for R_1 Systems, the Congress
and/or the President, come to view that agency as un-
supportive if their aims for that agency, out-of-control,
and unaccountable to Congress (or the President) for their
actions.

The following subsections will provide an example of an
R_2 agency, the Environmental Protection Agency (EPA). The
first subsection will "map" the EPA in terms of the five VSM
systems, and the second subsection will summarize, briefly,
some of the problems that the EPA has encountered as a
result of variety restrictions imposed upon it by R_1.

An Example of Recursion Two - the EPA

The manner in which the VSM can be fitted to a
governmental agency at R_2 can be made more clear with a
concrete example. This section will consider the
Environmental Protection Agency as an example of R_2.

The Environmental Protection Agency (EPA) is an
independent Executive agency responsible for the
implementation of federal laws designed to protect the
environment. Operational activities of EPA include
research, monitoring, standard-setting, and enforcement

activities, as well as coordination and support of research and anti-pollution activities of State and local governments, private and public groups, individuals, and educational institutions. EPA also monitors the operations of other Federal agencies with respect to their impact on the environment.[6]

The EPA is responsible for administration of ten major environmental protection laws intended to protect the public from the harmful effects of pollution and toxic substances. These laws, most of which were enacted in the 1970's and 1980's, are: the Clean Water Act; the Safe Drinking Water Act; the Clean Air Act; the Resource Conservation and Recovery Act; the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund); The Federal Insecticide, Fungicide, and Rodenticide Act; the Toxic Substances Control Act; the Marine Protection, Research, and Sanctuaries Act; the Uranium Mill Tailings Radiation Control Act; and the Pollution Prevention Act.

The EPA is headed by an Administrator, and is organized into an Office of the Administrator, Office of General Counsel, Office of Inspector General, and Assistant Administrators for: International Activities, Administration and Resources Management, Enforcement, Policy, Planning and Evaluation, Water, Solid Waste and Emergency Response, Air

and Radiation, Prevention, Pesticides and Toxic Substances, and Research and Development.

The EPA also operates ten Regional Offices, each headed by a Regional Administrator, which are responsible for the execution of the Agency's regional programs within the boundaries of their region. Regional offices adapt Federal policies and objectives to state and local programs and are the single point of contact with state and local governments on environmental matters. They negotiate state and local grants, enforce environmental regulations, negotiate and monitor delegation agreements, review permits, assess state plans, provide technical assistance and generally oversee environmental activity in their region. In addition to Regional Offices, which account for nearly 50% of Agency personnel, the EPA maintains a variety of field offices and laboratories.

In addition to EPA's "operating" appropriations, substantial portions of the EPA budget are designated for a State Revolving Fund that will assist states in financing water and waste systems, and for trust funds designated for cleanup of toxic waste sites (Superfund)and Leaking Underground Storage Tanks (LUST). Operating programs include programs devoted to specific environmental matters including Air, Water Quality, Drinking Water, Hazardous Waste, Pesticides, Radiation, Toxic Substances, Oil Spills,

and Multimedia environmental issues. The operating budget
also includes Management and Support and the Office of the
Inspector General.

It can be seen that EPA's Operational System, System
one, is complex, involving the organizations headed by
Assistant Administrators for International Activities,
Administration and Resources Management, Enforcement,
Policy, Planning and Evaluation, Water, Solid Waste and
Emergency Response, Air and Radiation, Prevention,
Pesticides and Toxic Substances, and Research and
Development, as well as the organizations headed by Regional
Administrators. Each of these, in turn, can be further
dissected into numerous operational activities at Recursion
Three.

EPA's Coordination System and audit functions are
nominally under the direction of the Assistant Administrator
for Administration and Resources Management, who acts as the
Agency's Chief Financial Officer. This organization
includes the budgeting function (which is interfaced to
Congress via OMB), procurement, or contracting functions,
and the Office of Inspector General. In theory, Control
System functions, day to day management, are performed by
Chief Financial Officer and senior members of the
Administration and Resources Management Organization.
Intelligence System functions are nominally performed

largely by the Assistant Administrator for Policy, Planning and Evaluation, and the Policy System, the ultimate "variety sponge" is the Administrator. In reality, great effort is expended in accomplishment of Coordination, Control, and Intelligence functions through large numbers of intra-organizational teams, committees and working groups.

In addition, EPA, by reason of its various missions, *also* performs functions related to other viable systems of which it is a component. Its regulatory and enforcement functions make it part of a wide variety of industries and State and local governments, for whom it comprises portions of Coordination System and audit channels for *Other* recursion levels.[7] When it issues loans or grants for infrastructure to communities, or when EPA funds research by Universities, it is performing Control System functions, since EPA establishes the general circumstances under which the grant will be administered, holds the community accountable for its use of the grant to accomplish the agreed purpose, and negotiates the overall amount of the resource to be used.[8]

A detailed analysis of the EPA and diagnosis of EPA's organization could be undertaken, via a more detailed model, to examine functions that are not operating effectively, interconnections that are either too formal or too informal,

information channels that cannot carry necessary informational loads, and the like. In particular, the balance of central direction and local autonomy is critical to cohesiveness of the organization. If the necessary balance is violated, stress is induced into the organization, reducing its effectiveness and efficiency (Beer, 1985). Similarly, a model and analysis of EPA's role in other viable systems could offer insight into how effectively EPA performed its Coordination System and/or, Control System roles within *those* viable systems. Such an analysis, however, is far beyond the scope of this endeavor.

Some Effects of Variety Restrictions on EPA

This section attempts to interpret the history and recent actions involving the EPA in terms of the VSM. As such, it is somewhat speculative, and an obvious oversimplification. Nevertheless, it is presented as an example of how the VSM can be used as a model for understanding government and the undesired effects that Systems designed by one recursion level can have on lower recursion levels.

The Environmental Protection Agency was formally established as an independent agency on December 2, 1970 in accordance with President Nixon's Reorganization Plan No. 3 of 1970. The agency was formed from fifteen elements of

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three Departments and several independent agencies, assuming control over nearly $1.4 billion in budget authority and 5800 employees from 157 different locations, including 1700 scientific researchers located in thirty-one laboratories in nineteen states (and from five different agencies). By 1993, the EPA managed an appropriation of $6.9 billion with an authorized workforce of 17,738 Full Time Equivalent (FTE) workyears.[9]

Despite the apparent growth in size of the EPA from $1.4 billion and 5800 employees in 1970 to $6.9 billion and nearly 18,000 employees in 1993, the responsibilities of the EPA have grown much faster. Most of the environmental laws, enumerated in the previous subsection, for which EPA is responsible have been passed since the agency was established. The net effect of this is that the variety for which EPA is responsible, or to which it must respond -- the "environment" with which it must deal -- has increased dramatically. At the same time, the wording of the specific legislation, while increasing the variety with which EPA must contend, generally imposes considerable restrictions on the EPA in the manner (variety) in which it can deal with those areas of responsibility. Moreover, Congress has provided considerably less money (resources) than is required to adequately meet the obligations that Congress

has imposed upon it. In this case the Control System (Congress) has increased the external variety that the agency must match, while restricting the variety available to the agency through one of the critical Control System channels - resources.

This variety restriction would not necessarily have impeded the agency's ability to respond to its environment, provided *other* R_1 Systems increased in variety, making more *total* variety available to the agency. This did not happen, however. On the contrary, other Systems *also* decreased the variety available to the EPA. For example, Congress, as already mentioned, restricted, via legislation, the manners in which the agency could deal with the responsibilities it had been assigned, for example for Superfund cleanup, or for promoting clean water. This represented a further restriction in variety via the Control System. OMB, with Congress's support, used its Coordination System responsibilities to restrict the EPA's ability to balance its own resources. It did so by imposing restrictions on EPA's ability to hire employees, forcing the agency to contract for services it might otherwise have choose to do itself.[10] Other Coordinating System restrictions, dealing with procurement and management of contracts, became increasingly restrictive.[11] The Control System's Audit

Channel also became more restrictive, as Inspector General offices were established in Departments and agencies, including EPA, that reported directly to Congress and that were under pressure by Congressional committees and subcommittees to root out "waste, fraud, and abuse."

Partly as a result of these variety restrictions (there were, of course, many other factors involved) the EPA was unable to respond promptly to deadlines for regulations that Congress imposed. When this happened, environmental groups sued, leading to further (and more strongly enforced) deadlines imposed by the Courts. This further restricted EPA's internal variety, since scarce internal resources had to be re-assigned to actions required to meet these external deadlines. It also further reduced the available time and resources that could have been used for careful development of regulations that would protect the physical environment, yet minimize the impact to other parts of the "environment," such as the economy. Furthermore, the EPA's ability, through negotiation, dialogue, and consensus building, to develop the public's sense that EPA actions are in the public's interest was restricted.

These restrictions in EPA's variety - its ability to act in response to the demands of its external variety have had (at least) two visible results. First, EPA has developed a public image as unresponsive, inefficient,

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ineffective, and unaccountable for its actions. Second, in
an attempt to be as responsive as it could (given the
restrictions on its internal variety) to the external
variety, EPA has developed an internal "mission over good
management" culture that has led it to ignore, or violate
many of the variety restrictions imposed by the Control and
Coordinating Systems. This, in turn, has led to a view of
the agency, at least in some parts of Congress, that EPA is
inefficient, wasteful, unaccountable to Congress, and
generally mismanaging the resources that it has received.
For a practical example of the effects that this second
result has had, the reader is invited to review the 1992
Hearings of the House Subcommittee on Oversight and
Investigations of the Committee on Energy and Commerce,
chaired by Congressman Dingell, on "EPA: Contract
Mismanagement."[12]

Summary

    This section has considered Recursion Two of our
mapping of governance in terms of the Viable Systems Model.
Since the Operational Systems of Recursion One represent all
of the administrative (or "operating") departments,
agencies, and other organizations within the Federal
government, one agency, the Environmental Protection Agency
has been selected to provide an example of how a particular

agency maps onto the VSM. Any other organization that can

be considered as an Operational System of Recursion One

could have been selected and so mapped. The *details* of that

mapping, however, would likely have been quite different

than those for the EPA.

This section has also used the VSM as a tool to

consider how excessive variety restrictions imposed by

Congress and the President have had a negative impact on the

agency and the way it is seen by both the public and

Congress. This analysis is a precursor to the broader

analysis of governance and public administration to be

presented in the succeeding chapter, Chapter Seven.

Chapter Summary

This chapter constitutes the last phase of the Total

Systems Intervention meta-methodology -- the

"Implementation" phase. In this phase, a model of our

American system of governance was developed. The chapter

has modeled it in terms of Beer's Viable Systems Model,

showing in general terms how the organizations and functions

of government fit into the recursive model. This was done

by "mapping" the various functions of the governance process

onto the five VSM subsystems at various levels of recursion.

Certainly, other mappings are possible, but this mapping is

adequate for its purpose. The section has also shown how

the VSM can be used to explain some of the ways that one recursion level can produce undesirable effects in governments departments and agencies and that lead to the view that they are inefficient, unresponsive, wasteful, or otherwise unaccountable either to the public or to Congress or the President.

The model could be developed in far greater depth and detail, but that effort is clearly beyond the scope of this research. The model has, however, laid the necessary groundwork to permit an examination of the implications for public administration from the perspective of a methodology grounded in a neurocybernetic, or "brain" metaphor. The use of the Total Systems Intervention meta-methodology as a tool for analysis of governance and the role of public administration is complete. We are now in a position to use the results of that analysis to examine their implications for public administration theory. That task is undertaken in the following chapter.

Notes to Chapter 6

1. For convenience, we shall adopt the following convention: The viable system in focus (the one in which we are primarily interested) is identified as Recursion One (or R_1). The next higher recursion (the one that contains) is identified as Recursion Zero (R_0). The next lower recursion (one that is contained within R_1) is Recursion Two (R_2).

2. Steam traps, which remove condensation from steam lines of heating systems, cost around $100 each. When one breaks it leaks as much as $50 worth of steam in a week. Plumbers at the Sacremento Army Depot were required by their management to following a standard operating procedure when they found leaking steam traps. The procedure involved going through normal procurement channels. The procurement officer, who knew nothing about steam traps, waits for enough orders to permit buying in bulk, thereby saving about $10 per trap. Sacramento plumbers ended up waiting a year for replacement traps, wasting $2500 worth of steam for each $10 saved on traps (Gore, 1993, p. 26).

Ash trays, or "ash receivers, tobacco (desk type)," are purchased by the General Services Administration according to a nine page specification, which includes precise instructions for smashing the ash tray in order to verify that it breaks in the proper manner (Gore, 1993, p. 27).

3. In particular, recommendations directed toward streamlining the budget process, decentralizing personnel policy, and streamlining procurement are primarily, or partially attempts to reduce System Two overcontrol.

4. "Autonomic" literally means "acting without volition," or "reflexively." Many people might find this a humorously apt description of Congress. Beer, however, means the term in a sense of "day-to-day" management, as opposed to long range planning, policy, and the like. In the case of government (which operates on a longer time frame) "year-to-year" management is probably more appropriate.

5. Each lower recursion, of course, has its own links via its System Four and System to its own "total" environment and sub-environments that are of particular concern to that recursion.

6. Access EPA, p. 5.

7. In the case of state and local governments, EPA provides Coordination System and audit channel functions for the next higher recursion level, Recursion Zero (the system of governance). In the case of regulated industries, those functions are performed as part of the recursion level above the American System of Governance, which is "Society" (If we stick to the convention we have adopted for labeling recursion levels, Society would be identified as Recursion Minus One (R^{-1})

8. Often grants are awarded to States and local governments according to a formula developed by EPA as a result of needs analysis and other factors. Often, however, research grants are "earmarked" by Congress for a specific recipient. This "pork barrel" funding is a prime example of variety of an operational element being reduced or restricted by overcontrol of variety by the "senior management" of a higher recursion level.

9. EPA 205-S-93-001, April 1993. Summary of the 1994 Budget.

10. Based on interviews conducted throughout the EPA by representatives of the National Academy of Public Administration, it has been a common belief at the agency that it is much easier to get money for contracts through the budgeting process than it is to get either authorization or money for civil service employees. As a result, many services are contracted for that could be done more effectively or more efficiently by EPA employees.

11. The Competition in Contracting Act, for example.

12. These hearing are reported in House Report Serial No. 102-138: March 4, 19, and July 8, 1992, EPA: Contract Mismanagement, Hearings before the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, House of Representatives. One result of these hearings was that EPA substantially expanded the amount of time and effort that its employees devoted to contracts administration. This further restricted the total amount of resources available for performing EPA's many missions.

CHAPTER 7

IMPLICATIONS OF THE MODEL FOR PUBLIC ADMINISTRATION

THEORY

"It seems to me that if we are serious about abandoning the politics-administration distinction -- if we are serious about policy being 'made' in administration -- this line of inquiry [the 'brain' model] needs to be taken very seriously. I would, incidently, distinguish this conception of 'creative mind' from that of 'goal seeking' or 'problem solving.' That is to say, it is rather common to conceptualize the administrative apparatus as a sort of calculating machine which solves problems that are fed into it, but this is essentially the politics-administration idea. The point is that some have also thought of the administrative apparatus as 'devising' and 'setting' problems" (Waldo, 1956, pp 44-45).

This chapter and the chapter that follows, draw on the results of the systems-methodological analysis that was performed in Chapters 4, 5, and 6 to draw conclusions about governance and the role of public administration. Before proceeding, it will be useful to review what has been accomplished so far.

A meta-methodology, known as Total Systems Intervention, has been borrowed from management science and adapted for use in an examination of the various historical streams of public administration theory for evidence that either mechanical, organismic, brain, or other metaphors have been used in addressing governance

as a system. It has been seen that public administration
theory, at various times, has touched on the *brain*
metaphor, or has adopted elements of a structuralist
approach, but no stream, or "school" of public
administration theory has fully examined the implications
of this metaphor. The role that theory, based in
mechanical and/or organismic metaphors, plays in shaping
questions about the role of public administration has
been examined. This examination has led to the
conclusion that theoretical problems related to the role
and legitimacy of The Public Administration are either
the direct result of, or are closely linked to the
dominance of these metaphors. It was postulated that
theory based strongly in a *brain* metaphor would allow a
reframing of The Public Administration in ways that would
shed light on the issues of role and legitimacy.

Next, the search began for a methodological "lens"
that would facilitate development of descriptive theories
about public administration that would be based in the
brain metaphor. These theories, in turn, could be
examined for their normative, or prescriptive, impact on
the issue of the role of public administration. The
second phase of the TSI meta-methodology (as adapted for
our purpose)-- *choice* -- provides the means for finding
such a "lens." The TSI methodology and "A System of

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Systems Methodologies" were used to select a methodology that met the requirements of a structuralist ontology/epistemology and a brain metaphor. The only available systems methodology that meets these requirements, and that fits the problem context, is Stafford Beer's Viable System Model. The VSM was examined and found to be a satisfactory model for this project, provided it is used with some care.

Finally, in the *Implementation* phase of the TSI meta-methodology, a structuralist model of governance was developed by "mapping" the various functions and structures of our Federal government onto the VSM at several levels of recursion. At the lowest level of recursion examined, R_2, the Environmental Protection Agency was used as an example by mapping the general structure of that agency onto the VSM topology. This mapping, and an understanding of the restrictions imposed upon it by the next higher recursion, R_1, was used to provide a possible "explanation" for recent problems that the EPA has had with Congress relating to its contracts management practices.

This chapter makes use of the lens provided by the VSM-based model to perform a *descriptive* examination of key issues of public administration from the perspective

of the *brain* metaphor. First, it considers the question of what "public administration" *is,* and whether it is useful to consider "The Public Administration," as a distinct entity or institution. It next considers the *structural* role that public administration plays in the system of governance. With this descriptive theory as background, the stage will be set for the dispensing with the "dichotomies" that have plagued public administration theory: government vs the governed, politics vs administration, and policy vs implementation.

What is Public Administration?

This section begins the analysis by considering what is meant by "public administration." More specifically, it considers what happens to "public administration" if governance is seen in terms of the *brain* metaphor and the VSM.

Public administration, by most definitions, has to do with the execution of public affairs. If, however, public administration has to do with the execution of public affairs, *where*, in our model of governance, does such execution lie? Does it reside in Recursion Zero? One? Two? Or does it reside in still lower recursions - Three, Four, and so forth? If governance, as suggested by the model, is *recursive*, then there is no way to

decide. It lies, insofar as we can tell, in *all* recursions: Zero, One, Two, Three, ... Public administration, in other words, cannot be distinguished from governance itself. They are synonymous. To talk about public administration is to talk about the process of governance.

It is, from this perspective, inappropriate to restrict the use of the phrase "public administration" to mean something on the order of "that which is done by administrative agencies." That usage, however, is the common usage of "public administration." In fact, that usage is so common that we might be willing to accept a definition that went something along these lines: "Public administration" is the term that we use to designate the process of governance when the Recursion in focus (the one we are currently interested in) is R_1, or lower, but not R_0. Even this understanding of the term, however, is problematic, as we shall see in the next section.

"The Public Administration"

This section considers whether there *is* something that can be called "The Public Administration." It concludes that there is not, and suggests, instead, that

the only institutional entity, other than discrete agencies, associated with administration is the government itself.

Wamsley, et al. (1990, p. 34) characterize "'The Public Administration' as an institution of government." They use the phrase in an attempt to move away from the negative connotations and organizationally-based meaning of the term "bureaucracy" and toward a reconceived, and more legitimate, view of the operational, or administrative components of government as active players in society and in governance. What is apparently meant by the phrase "The Public Administration" is an institution associated with performance of governance, which is distinct from, but which can be thought of as logically equivalent to, the Congress, the President, and the Courts, albeit subservient to them all.

The "Blacksburg Manifesto" describes "Public Administration" as centered on the executive branch, but including any portion of any branch to the extent that it is charged with execution of the laws (Wamsley, et al. 1987; p. 299). What they have defined as the "Public Administration" is, in terms of the governance model developed in the last chapter, a composite of all the Operational Systems of R_1. The Operational Systems, at

this recursion level, encompass all of the operational functions of government (which is, in turn, one of the Operational Systems of the System of Governance). Moreover, the Operational Systems, are clearly important, since without them, government is not a viable system - it cannot exist. The Operational Systems, however, are *separate* viable systems, not a *unified* viable system. There is no single viable system that can be identified as either "Bureaucracy," or "The Public Administration."

Congress, the Presidency, and the Courts, however, *are* viable systems. While each of these institutions performs functions identified with Coordination, Control, Intelligence, and Policy of the viable system we refer to as government, they are also institutions in their own right. Their institutional characteristics derive from their separate, independent existence and not from the *functions* that they perform. They can be independently analyzed as viable systems, with management, operational, coordinating, auditing, and other functions. They exhibit closure via an internal Policy System that provides identity.

It is this concept of identity that is essential for identification as an institution. The use of the term "institution" can be confusing, since it can refer to "a

significant practice, organization, or relationship in a society or culture" (<u>Websters New Collegiate Dictionary</u>, 1979). As used here, it is taken to refer to an institution based in an "organization," and not simply to the practice of public administration. "Institution," therefore, is intended to imply an "organization," together with the information about, and relationships with its environment that allow it to have "closure," to be autopoietic, and to have and maintain an identity. "Institution," used in this sense, is an organization seen as a "viable system."

There is no sizeable group of government employees, organized or otherwise, who identify themselves first and foremost as either as "The Public Administration," just as there is no similar group that considers itself "The Bureaucracy." Public employees may characterize what they do as "public administration," and consider their profession as public administration, but their identification is with a profession or with their agency, not with The Public Administration. There is no closed system that can be identified as "The Public Administration," which meets the tests of viability.

This conclusion implies that <u>Refounding</u>, cannot accomplish its task, which is to legitimize and clarify the role of administrative components of government. It

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is true that there is a popular concept of "bureaucracy" that, according to <u>Websters</u>, implies both "a body of nonelective government officials," and "a system of administration marked by officialism, red tape, and proliferation." Legitimacy, however, surely requires more than simply proposing a new term for "a body of nonelective government officials," in the hope that "the Public Administration" will not also imply "a system of administration marked by officialism, red tape, and proliferation" in the public mind. Furthermore, it maintains the use of the mechanistic and organismic views of government, which, as we have seen, appear to be at the roots of our theoretical problems.

The Role of Administrative Agencies

Despite the fact that there is no "Public Administration" for which a role can be identified, the model of governance, based in the *brain* metaphor does identify roles for administrative agencies, and for the public administrators who staff them. The VSM mapping of governance reveals that the Operating Systems of R_1 are themselves viable systems, consisting of departments, agencies, and other administrative components. Each of these viable systems has a unique identity, can be

decomposed into its own five systems - Operational, Coordination, Control, Intelligence, and Policy. Each of these viable systems is interconnected to its environment via its Operational and Intelligence Systems, and is capable of exhibiting all the characteristics normally associated with an institutionalized organization. It is these systems that are government's autopoietic generators, and which *produce* government. In the place of "The Public Administration" as an institutional replacement for the pejorative "bureaucracy," and as a focus for study, there is simply "The Government."

Public administrators, however, do not consider themselves "The Government," because they identify with the next lower recursion, their agencies. The actions of Congress or the President can be distinguished from the actions of government, in general. Similarly, the actions of individual agencies, such as the EPA, may be distinguished from those of the Defense Department. The actions of government's Operational Systems taken as a whole, however, cannot be distinguished from the actions of government. The Operational Systems, by definition, are those parts of government that interact with the environment.

It may be difficult to accept the idea that it is the Operational Systems of government, its departments

and agencies, that produce government, and not government that produces agencies. This concept, nevertheless, is the logical result of the idea that government is a "closed" viable system. "Closed," in Beer's usage, is not the narrow concept of "isolated from the environment" that is commonly used by "open" vs. "closed" system theorists. Beer uses it in the broader, recursive, or autopoietic, sense of a system which contains within itself all the information and structure necessary for self-generation, articulation, and maintenance (Maturana and Varela, 1980; Zeleny, 1981).

In this sense of "closure," relevant portions of the environment are as much parts of the viable system "government" as are Congress and the President. It is the interaction of an agency with other agencies, with the Coordination and Control Systems, and ultimately with its environment that *changes* that environment. It is the interactions of the Intelligence System with the broader environment and the general direction and closure of the Policy System that *changes* government. Even the broader environment which System Four monitors, is largely determined by the influence of governmental operations on local environments at all lower recursions. It is the interaction of Operational and Intelligence Systems *at*

all levels of recursion with their environments that
produces governance.

"Environment," as it is used here, must be
understood as far more than mere "popular opinion." It
encompasses the entire environmental context, insofar as
it is relevant, *including* public opinion, but also those
things that form, influence, and constitute our society,
including values, culture, history, precedent,
stakeholder reactions, interest group pressures, science,
technology, the economy, international issues, and so on.

Expressed in the simplest possible terms, what
public agencies do and the way that they do it influences
if not creates the environmental and systemic context
that *ultimately* influences, shapes, and determines
government's policies. This is true not only in the
immediate sense of policies that the administrator's
agencies are expected to carry out, and the resources
they are given, but in the broad sense of governmental
policy in general.

Agencies, it is true, are subservient to the
political direction of elected officials, and elected
officials are ultimately subservient to the electorate.
The electorate, however, forms its views, opinions, and
attitudes within a context formed by the *actions* of

government, which are performed by Operational Systems - agencies and departments.

Each agency or department, in turn, is similarly closed, since an agency is a viable system at a lower level of recursion. The autopoietic interactions of all governmental departments and agencies with their immediate environments (which, in turn, are the result of autopoietic interactions at lower recursions) merge to influence the larger environment that is autopoietically closed within the government. Ultimately, lower recursions in the agency are composed of *individuals*. These individual public administrators are, themselves, viable systems, which are Operational Systems for a higher recursion level. In the end, it is these individuals, interacting with their own environments, with each other, and *constrained* by the Coordination, Control, Intelligence, and Policy systems imposed upon them by higher recursions, that create government.

This understanding of closure and governance leads to the conclusion that the role of public administration, and of public administers, is not simply to execute policy developed by others, but to autopoietically generate government. This is done by interacting with the environment at all recursion levels. Agencies, and public administrators act upon their environments and

are, themselves, acted upon by their environments. It is
this interaction, that *is* government.

The "Dichotomies"

Finally, it is time to dispense with the
"dichotomies:" government vs the governed, politics vs
administration, and policy vs implementation. If
government is seen as a viable system that is "closed" in
the autopoietic sense of "including" its environment,
then there can be no real distinction between government
and the governed. Furthermore, government is merely a
lower recursion of a system that includes "the governed"
as the "senior management" of government. There is no
real distinction between government and the governed.
They are so interrelated that the effects of one on the
other cannot be sorted out.

Similar arguments readily deal with politics vs
administration, and policy vs implementation. We have
seen at some length how "politics" and "policy" are
distributed, along with "administration" and
"implementation," throughout all of the recursions that
compose the system of governance. They are all so
interrelated (and so integrated and interrelated with the
environment) that they are not, in general,
distinguishable. It is true, that we can discuss aspects

of a particular policy, as it exists at a instant, within one particular recursion level, but those aspects are clearly understood to be fleeting and partial. In no sense can we assume, from the perspective of the *brain* metaphor, that we have "captured" government's policy.

It should be clear, then, that the "dichotomies" are indeed epiphenomena of the *machine,* or *organismic* metaphors. They either disappear, or become trivial, when the *brain* metaphor is dominant.

It should be noted that the conclusions drawn in this chapter are not simply normative statements about what public administration *ought* to do, but descriptive statements about what government, -- public administration *does*, consciously, or otherwise, well or badly. Unlike the normative approaches used by the authors of Refounding and related attempts to refound the field of public administration, the *rigor* imposed by adherence to systems-based methodologies has resulted in *descriptive* theory about the role of public administration. The *prescriptive*, or *normative* implications of this theory will be examined in the final chapter, Chapter 8.

Chapter Summary

This chapter has examined the governance model developed in the preceding chapter for its descriptive implications with regard to the role of public administration. It has concluded that there is no institutional entity that can be identified as "public administration" and that is distinct from "government," itself. Rather than pursue the issue of a role for "the Public Administration, we turned to examination of the roles of administrative agencies.

As the result of an examination of the roles of administrative agencies within the concept of "closure" that characterizes Stafford Beer's Viable Systems Model, it was concluded that administrative agencies, together with public administrators, cannot be distinguished from the process of governance itself. It is the interaction of these agencies and these individuals with the environment, which is itself filled with viable systems, that results in changes to the environment that are recognized by higher recursions and that, in turn, result in changes in governance. Everything, environment and government, is dynamic and constantly changing and interacting so that nothing can be properly termed the "cause" of anything else.

Finally, it was concluded that, unlike <u>Refounding</u>, the methodological approach that has been used in this analysis has resulted in *descriptive* theory. It was left to the final chapter, Chapter 8, to present what appear to be *prescriptive*, or normative implications of that theory.

CHAPTER 8

REFRAMING PUBLIC ADMINISTRATION THEORY

*"For the traditional craftsman, neither
ends nor means can be freely chosen. The logic
of craftsmanship transcends will and constrains
choice. That is so because materials are
respected as having their own nature -- a
nature that sets limits even as it opens
possibilities. This way of thinking presumes a
world of known materials and stable frameworks"*
(Selznick, 1994, p. 15).

The preceding chapters have laid the groundwork for

reframing the ways we think about public administration

in terms of a richer metaphor. At has been seen, a

theoretical approach that views government in terms of a

"learning system," or "brain" metaphor, and that is based

in a structuralist ontology and epistemology, can clarify

the role and legitimacy of public administration and

provide useful guidance to public administrators. This

chapter considers some fundamental concerns of public

administration theory: legitimacy, representation and

accountability, and the public interest, from the

descriptive framework established by the brain metaphor,

and the VSM, and draws prescriptive, or normative,

conclusions about how public administrators should act,

and about the tools that they need to do so.

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There are two distinct ways that one can think of the aim, or "purpose" of a viable system. In the first, or descriptive way, the aim of a viable system is what it does. If the viable system is an organization, its aim may, or may not, relate to the conscious desires of any of the people involved with that system. Every viable system has Operational, Coordination, Control, Intelligence, and Policy Systems. The variety that the viable system "sees" on its environment is always matched by the variety absorbed by its Coordination, Control, Intelligence, and Policy Systems. Where these systems do not exist as *formal*, *designed* systems, they will appear as *informal*, or *unplanned* ones. These systems, interacting with the environment, result in the viable system doing *something* - its aim. Under this concept, the VSM is a *descriptive* model. The last chapter, Chapter 7, relied on this descriptive property of the VSM to make descriptive statements about the processes of governance and the role of public administration.

The second way that one can think about the aim of a viable system is in *prescriptive* terms. If one decides what it is that a particular viable system should do - what its aim should be - one may attempt to *design* Operational, Coordination, Control, Intelligence, and Policy Systems to support that aim, and to *modify* those

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designs, as necessary, to achieve that aim. This
selection of aims, however, is not an unlimited one.
Every viable system is embedded within a larger viable
system, which imposes its own constraints on allowable
aims. Once a particular aim is established as the
desired one, the VSM becomes a *prescriptive* tool for the
design of a viable system to achieve that aim. This
chapter considers the *prescriptive*, or *normative*
implications of the *brain* metaphor, as implemented using
Beer's VSM, for public administration.

To examine the prescriptive implications of the
brain metaphor for public administration, it is first
necessary to decide what the aim of our system of
governance ought to be. Chapter 6 proposed such an aim
when it decided that the aim of the governance model
would be Lincoln's statement that "government of the
people, by the people, and for the people shall not
perish . . . ." This aim was selected, it was argued,
because it both contained an expression of *viability*
("shall not perish") and because it seemed to express
values that the vast majority of "the people" (who are
government's Control System) hold with regard to
government, and was an expression of their overall aim
for government. Moreover, as shall be seen, the aim that
"government of the people, by the people, and for the

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people shall not perish . . ." relates very closely to
issues of public administration: legitimacy,
representativeness and accountability, and the public
interest.

Legitimacy: Government of the People

The idea that the government's operational systems
are its autopoietic generators relates directly to the
issue of the legitimacy of the administrative state. The
"legitimacy problem" has been around almost since the
founding of the country. As it pertains to public
administration, legitimacy deals with the question of how
administration can be reconciled with democratic values
so that the authority of government to act is broadly
accepted as "government of the people."

The public's sense of governmental legitimacy is
decreasing. Indications of this can be seen in popular
demands for Congressional term-limits, and in growing
public concern with the influence of special interests on
elections and legislation. It is in evidence in the
tendency to elect Presidents who depict themselves as
"outsiders," and in public certainty that government in
general is fraught with "waste, fraud, and abuse." Polls
show that public confidence that government usually does
the right thing has decreased dramatically.

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Nevertheless, the brain metaphor, as expressed in the VSM governance model, implies that legitimacy ultimately depends on more discretion for public administrators, not less.

Various approaches to reconciling effective administration with democratic values have been proposed, and tried. Attempts at reconciling the bureaucracy with democratic values have resulted in two competing "models" - actually ideologies - of governance: the pluralistic-democracy and the administrative-efficiency models (Wamsley, et al., 1992). Neither model has proved satisfactory. The idea of the "agency perspective" is an attempt to reconceptualize and legitimate the role of the public administration around an argument that "the popular will does not reside solely in elected representatives, but in a constitutional order that incorporates a remarkable variety of legitimate titles to participate in governance" (Wamsley, et. al., 1992:77). The public administration is, according to this view, entitled to legitimacy by virtue of its grounding in statute and in constitutional order. Each officer of the government may be considered a "representative" of the people, no matter whether they were elected, appointed, or otherwise selected for office. This theory, which Rohr (1990) argues was the Federalist's interpretation,

provides agencies with a *theoretical*, or rational-legal, claim to legitimacy for governance.

Legitimacy, as noted in Chapter 4, is a complex issue that involves more than theoretical or legal claims. Legitimacy is "both a specific legal concept" and an "amorphous psychosociological concept" (Shafritz, 1988). A legal or a theoretical claim for legitimacy does not satisfy the psychosocial aspects of legitimacy. The structuralist use of the "brain" metaphor, as modeled by the VSM, can shed light on legitimacy in psychosociological terms, while also explaining the function of legal concepts within the governance system.

First, it must be made clear what is to be legitimated. Because there are no viable institutions that can be known as "the bureaucracy" or "The Public Administration," there is nothing in these ideas to legitimate. If there is no self identity, there can be no public identity, and no legitimacy. The institutions of government, the viable systems from which it is constructed, can be legitimate or not. Congress, the Presidency, the Courts, and individual departments and agencies may each be considered legitimate or not, because each is a viable institution in its own right. The legitimacy of those parts of government that act in an administrative capacity, the Operational Systems

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composed of all the departments and agencies, can only be thought of as the legitimacy of government itself, since they are inseparable.

If the implications of the Viable System Model are to be believed, then the Constitutional approach to legitimacy advanced by Rohr in Refounding, and elsewhere, cannot be valid. Legal concepts, based in the Constitution, serve Coordinating System functions, as does the Constitution, itself. But the Coordinating System has nothing directly to do with legitimacy. Management of government, the Control System, at R_0 is done by the people. It is the people who ultimately assign authority to the formal government, allocate its resources and hold it accountable. Legitimacy for the government can derive only from the people, and not from the Constitution, whose function is to coordinate government's various subsystems in a manner that prevents one subsystem from dominating the others, prevents wild oscillations between them, and generally constrains government's actions. Rohr is indirectly correct, however, to the extent that the Constitution and Regime Values form part of the environmental context that comprises the autopoietic system of governance.

If "the people" are the Control System of the governance process, then it must be their common acceptance of government that gives the government its legitimacy, at least over the long run. In the final analysis, the American public's sense that their government is indeed "of the people" is about as good a definition of legitimacy as we have. We have already argued that the ultimate aim of American government must be to maintain that public sense that government is *of, by, and for the people*, over the long term. Expressed in another way, then, the primary aim of government must be to maintain its legitimacy, or its systemic viability.

If the operational components of government are the autopoietic generators of government itself, via individual and collective interactions with their environments at all recursion levels, then it is inappropriate to consider governmental legitimacy as applying uniquely to "bureaucracy," "the administrative state," "Congress," or the "Presidency." One function of government is ultimately impossible to distinguish from another in terms of its causal relationship with the public's sense of legitimacy. The public, from time to time, may place more, or less, faith in Congress, a particular President, a particular agency, and so forth. Despite public *assumptions* about the cause of their

dissatisfaction, one does not need to spend very much time listening to talk radio or talking to average citizens to conclude that few distinctions are made between parts of government in the public's mind - it is all "damn guv'ment."[1,2]

One implication of the VSM is that government's results, over the long term, derive from complex interactions at all levels. The public's general impression of government, therefore, cannot be ascribed to a unique causal agent. If any aspect of government detracts from public confidence, or fosters the impression that it is not of, by, and for the people, it lessens the public sense of the legitimacy of all of government. On the other hand, good management at each recursion level of government is required to insure that variety is controlled in ways that facilitate the viability of the system, and that achieve its aims. It is the composite result of such good management applied at the agency level, and at other recursion levels, both higher and lower, that builds legitimacy.

An excellent example of a governmental agency deliberately building its own legitimacy (and simultaneously building the legitimacy of government, in general) is provided by the history of the British

police, which were established as a centralized,

professional police force in 1829 after forty years of

resistance. Reiner (1985) described the rise of police

legitimacy in the following manner:

> The British police were established in the face
> of massive opposition from a wide range of
> political interests and philosophies. While
> middle-and upper-class suspicions were rapidly
> allayed, working-class resentment lived on,
> expressed in sporadic physical violence and
> symbolized by a stream of derogatory epithets
> for the new police: 'Crushers", 'Peel's Bloody
> Gang', 'Blue Locusts", 'Jenny Darbies', 'Raw
> Lobsters', 'Blue Drones'. Yet by the 1950s the
> police had become not merely accepted but
> lionized by the broad spectrum of opinion. In
> no other country has the police force been so
> much a symbol of national pride. (p. 48).

According to Reiner, police policy was crucial to

legitimacy. Police policy, which was adopted within

constraints determined by the political balance and by

British culture, adopted a low police profile, emphasized

a tight framework of legal rules and regulations, and

eschewed the use of force. This policy, despite strong

opposition to the existence of the police, enabled the

police to build an image, organization and strategy that

overcame public and political opposition, despite the

fact that police legitimacy is inherently limited, since

it is ultimately concerned with acting through the use of

force.

> For policing to be accepted as legitimate it is
> not necessary that all groups or individuals in

a society agree with the substantive content or
direction of specific police operations. It
means at minimum only that the broad mass of
the population, and possibly even some of those
policed against, accept the authority, the
lawful right, of the police to act as they do,
even if disagreeing with or regretting some
specific actions. (Reiner, 1985, p. 2).

For governmental actions to be accepted as
legitimate (to paraphrase Reiner) it is not necessary for
all groups or the populace to agree with all the acts of
governance. Such agreement is, of course, impossible.
What it does mean is that "the broad mass of the
population" accept the authority of government to act as
it does, "even if disagreeing with or regretting some
specific actions." In any society, but most especially
in a free society, such acceptance can only come when the
people have a sense of participation in their governance,
and a belief that the actions of government are generally
taken for the benefit of the people, and not for the
benefit of a few.

The EPA becomes legitimate, and maintains that
legitimacy through the public's perception of its
policies and their results - how effectively, fairly,
and efficiently it protects the environment, and how well
it balances its actions against undesirable effects to
the economy, individual freedoms, and so forth. The EPA
must act to convince the broad mass of the populace, the

people, that its actions are ultimately *by* and *for* them. This means, among other things, that EPA must act to educate the public about the importance and intricacies of environmental issues, and must integrate and coordinate its actions with other segments of government and the economy, in order to resist charges that it protects the environment unnecessarily or at too great an economic cost. The EPA cannot establish and maintain legitimacy while simply implementing and enforcing the dozen different environmental laws over which it has jurisdiction. It must assume responsibility, within the scope of the tools and constraints provided by Congress, for acting as the public's representative and in the public's interest wherever the environment is concerned, and convincing the public that it is doing so.

The military maintains its legitimacy through its results in time of war, through the public's perception of its ability to fight a war, if required, and through public confidence that its preparations for war are appropriate, and are done competently and efficiently. Military legitimacy, however, is also predicated on the American people's conviction that the military is subject to their ultimate control and dedicated to protection of *their* interests, and not to their oppression. The policies and actions of the Defense Department and the

individual services must reinforce that conviction to maintain legitimacy of the military, and of government.

The implication of the VSM-based governance model is that legitimacy is increased by the right amount of administrative discretion. If an agency has too much discretion (or is allowed too much variety), the "system" may become unstable, decreasing its legitimacy. The most likely result of this decreasing legitimacy is a reduction in the discretion allowed the system -- bringing it back to stability. Another possible result is its disappearance entirely, as it becomes no longer viable.

If an agency has too little discretion, on the other hand, the agency becomes unresponsive, or unable to adapt to changes in its environment, also decreasing its legitimacy. The most likely result of this decreasing legitimacy is *also* a reduction in the discretion allowed the system. In this case, however, the system is not returned to stability, but driven ever further into illegitimacy. This may *also* result in the agency disappearing (eventually) as it becomes unviable. While a particular agency comes to be seen as less and less legitimate, this also decreases the legitimacy of government in general, making the problem still worse. Agencies, and public administrators, if they understand

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these effects, should see that their personal viabilities
are closely tied to their ability to use their discretion
in a way that *increases*, and not *decreases* legitimacy.

Representation and Accountability: Government by the People

The problems of insuring that it is the people in a
democratic society who govern through their
representatives, and that government is ultimately
accountable to the people, are central issues in the
administration of government. An original weakness in
the Constitution was the fact that so many people were
represented by so few in the legislature. The Anti-
Federalists, in particular, favored a theory of
representation that "held that a representative assembly
should be a microcosm of the society as a whole" (Rohr,
1986:41). As the population of the country grew, this
problem became increasingly worse. The result is that
few members of the electorate see their legislative
representative as someone who "thinks as I think, and
feels as I feel." Rohr (1986) argues that the
administrative state heals the Constitutional defect. By
its very size and composition, the bureaucracy, while not
a "true" microcosm, meets the broad "middle-class"
standards of the Anti-Federalists.

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Other approaches toward increasing the sense of representation, or participation, have been proposed and tried, most of them involving the bureaucracy as either the source or the conduit for increased representation for individuals and interest groups. Two such approaches include the formation of bureaucratic organizations to represent the interests of specific groups and interests, and representation via citizen participation. The former, based in interest group politics, produces a sort of symbiotic relationship between agencies and specific groups and organizations, for example, the Dept. of Agriculture and farmers. The latter emphasizes the use of citizen committees and advisory groups.

An elaboration of the latter approach, proposed by Stivers in Refounding, sees public administrators and citizens sharing practice:

> Relationships between public administrators and citizens that constitute a community of citizenship can be fostered by laws, regulations, policies, procedures, and ongoing actions that share responsibility with citizens in conduction of agency affairs. Within given legislated mandates, administrators can use their discretion to approach rule-making and the design of agency processes so that not just clients and interest groups but members of the general public participate as fully as possible in policy making and in implementation. Such arrangements do not entail "privatization," or the divestiture of public responsibilities, but rather substantive cooperation between citizens and administrators in which citizens are seen as co-governors and co-decision makers, not simply as

consumers or providers of services. (Stivers, 1990, pp 267-268).

It is, perhaps, the feeling of being unrepresented that has led to modern demands for greater accountability by all parts of government and increased dissatisfaction with "damn gov'ment," in general. Despite the *theoretical* demographic representativeness of the bureaucracy, it is arguable whether the public sees the bureaucracy as either representative *of* them, or as their representatives. While the administrative state may have corrected a theoretical defect in the Constitution, it has not contributed to any popular sense of legitimacy in the government. To the contrary, numerous political candidates have been successful by emphasizing anti-government and anti-bureaucratic agendas aimed at increasing the accountability of the bureaucracy to the public. Actual attempts to increase accountability, however, have invariably focused on increasing the political accountability of governmental operations to Congress and the President. These attempts have the effect of reducing the variety available to government's Operational Systems by increasing the restrictions imposed on variety by Control and Coordination Systems. The result is a *decrease* in the ability of government to respond to the public.

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Increased political accountability to both the President and Congress has been an integral part of governmental reform attempts since, at least, the 1960's. Congressional reforms of the 1960's and 1970's included expanding the committee system, strengthening the General Accounting Office, establishing the Office of Technological Assessment and the Congressional Budget Office, and passing the War Powers Resolution and the Budget and Impoundment Control Act. In the 1970's came the Federal Advisory Committee Act, the Freedom of Information Act Amendments, the Privacy Act, the Federal Election Campaign Act, the Government in the Sunshine Act, and the rise of legislative micromanagement via legislative vetoes, appropriations riders, personnel restrictions, deadlines and so forth. Finally, in the late 1970's Congress enacted the Civil Service Reform Act, the Ethics in Government Act, and the government-wide Inspector General Act (Light, 1993). The action, and the intent of these reforms was to decrease the independence of government's operational organizations, and to make them more accountable to the political system in an attempt to increase public control over governmental operations (Rourke, 1980).

In terms of the VSM, and Ashby's Law of Requisite Variety, the public's sense of representation relates

closely to variety and the way that government handles the variety presented by the population. The Constitutional concept, expressed in terms of the VSM was that the variety of the populace would be reasonably matched by Congress. Populations in small geographic areas tended to be relatively homogeneous, presenting limited variety in terms of government. Nevertheless, the very debate over representation attests to the concern that a representative government could not hope to match the variety of a large country. In their capacity as the Control System (R_0), or citizen-managers, of government, the people deliberately limited the amount of government's variety that they controlled. By the act of creating a representative form of government, the people relinquished their direct control over variety, separating their roles as citizen-managers of government from their roles as citizen-customers of government.

As our society and the population has become more complex and diverse, variety has exploded. The variety presented by government and that has been relinquished by citizen-managers has undergone a commensurate increase. At the same time, the ability of government to respond to the variety of society has not increased in proportion to the increase in society's complexity. Citizen-customers

see government as increasingly rigid, inflexible, and unresponsive. The net effect is to decrease the people's sense of representation and their belief that government is "by the people."

As the sense of representativeness has decreased, the feeling that the actions of government are necessarily legitimate has declined proportionately. As government has been seen as less legitimate, citizen-managers, the people, have loudly expressed their dissatisfaction, electing Presidents and representatives who promise to improve the variety "match" between citizen-managers and government by restricting government's variety. This restriction can take several forms, including reducing governmental operations (less government) or restricting the actions available in the conduct of governmental operations (more regulation of government), or a combination of both. The responses from government's (R_l) Coordination, and Control Systems have been to further restrict the variety of governmental actions by increasing regulation and decreasing, or highly restricted resources.

The regulations and restrictions imposed on the operational systems of government, especially those adopted during the 1960's and 1970's, have necessarily

reduced the discretion of public administrators, reducing the ability of government to respond to the needs of individuals. Examples of such restrictions include the Competition in Contracting Act, requirements for Office of Management and Budget clearance of proposed regulations, the creation of strong Inspectors General in each agency with close links to Congress, and the requirement for establishment of Chief Financial Officers in each agency. These and similar restrictions, in turn, have decreased the ability of government to act, increasing the feeling of alienation from government and leading to an ever worsening spiral. The stakes, then, are quite high, since the ability of the entire government to *act*, and thus to be effective, has become increasingly impaired.

The problem arises because the people are not only citizen-managers (R_0) of government, they are also citizen-customers (R_1). According to Beer's VSM, the total variety available to an Operational System by the Coordination and Control Systems must equal the total variety that the Operational System can use to match its environment. As the Coordination and Control Systems restrict the variety available to an Operational System, the Operational System has less ability to respond to its

environment. The environments of government's Operational Systems include the people, in their capacity as citizen-customers of government.

To the people, however, it's all "damn guv'ment," they do not tend to distinguish between their roles as citizen-managers and as citizen-customers of government. What the public observes is the total variety exhibited by government. On the one hand, a citizen, in his or her capacity as a "customer," observes the variety that the actions of government exhibit as its Operational Systems interact with their environments. On the other hand, a citizen, in his or her capacity as a "manager," observes the variety that is available to them as they perform their Control System functions. It is the *total variety* that citizens observe from *both* roles that establishes government as responsible and, thus, legitimate in the minds of the public.

This total variety has decreased substantially. The great increase in population, with no commensurate increase in representation, means that the variety that the individual citizen-manager controls is far less than it was at the Founding, and is constantly decreasing. The increase in complexity of society without an equivalent increase in government's ability to act has reduced the variety that the citizen-customer observes.

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The attempt to increase governmental responsiveness and accountability through increasingly restrictive Control and Coordination Systems has further restricted the variety that governmental operations can exhibit.

Government's response to citizen-manager complaints has not been to increase the variety controllable by citizen-managers, but to restrict variety with which governmental operations can respond to citizen-customers. The restriction in operational variety, however, decreases the public sense that government is responsive, or "by the people," leading to more citizen-manager pressure, more restrictions, and so forth. The result is centralization, increased political control over the public service, increasingly bureaucratic, hierarchical organizations, more restrictive rules, and less administrative discretion. Over the long term, restricting operational variety *decreases* government's accountability to the public, lessening the public's sense that government represents and responds to their views and desires.

The public's sense of being represented, that government is "by the people," can be increased through *increasing*, not decreasing, the ability of government's System One, the administrative, or operational part of government, to be responsive to individual differences,

situations, and preferences. This can occur only if

departments and agencies become less centralized, bureau-

cratic, authoritative, and hierarchical, not more so.

Contrary to Lowi's (1969) argument against

decentralization and bureaucratic discretion, increased

accountability to the public must come directly via

government's actions, and not indirectly through

increased congressional and presidential restriction on

that action.

The public service and the administrative state are

illegitimate, not because they lack Constitutional

standing, but because they are not directly accountable

to the people. What is needed is a public service that

is more directly responsive and accountable to the

public; one that actively, not merely symbolically,

represents the people.

The Public Interest: Government for the People

The role of administrative departments and agencies

as the autopoietic generators of government also leads us

to a new understanding of "the public interest."

Autopoiesis refers, not to planned or designed properties

of a system, but to properties that "emerge" out of the

dynamics of the viable system interacting with its

environment. It is impossible to predict or control

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ahead of time the precise form that those self-organizing

properties will take. It *is* possible, however, to

inhibit or facilitate the autopoietic processes. The

choice for government is either to attempt to impose the

existing order, by inhibiting the autopoietic processes

or enable unpredictable changes by facilitating them.

One characteristic of modernist society is that:

> order is best when it is emergent rather than
> imposed; when it respects the context of which it is
> a part; when it finds principles of governance
> within that context; and when the disharmonies it
> holds in tension are plainly revealed (Selznick,
> 1992, p. 11).

If an aim of governance is to insure government "for

the people," or that government acts in the public's

interest, and government is a viable system that

autopoietically generates itself, then it is reasonable

to expect that "the public interest" is not something

that can be decided upon by a small number of

representatives or officials, but an emergent property of

the system. All public administrators, or other

government officials, can do is act to either block or

facilitate emergence; they have little control over *what*

it is that emerges.

Moreover, since government is a viable system

recursively embedded in a larger viable system, R_0, it is

the public's *perception* (in its role as citizen-manager)

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that government's actions are in the public's interests, and not, instead, purely in the interest of a few, that maintains government's viability. The problem for government in general, and public administrators in particular, is not to decide what the public interest is, but to act in ways that facilitate the emergence of a public sense that government's actions are in the public interest.

The idea of the agency perspective (Wamsley, et al, 1990) holds its greatest potential in this regard. The agency perspective contends that public agencies as *institutions* are repositories of something approaching the public consensus as to the public interest in its particular area of concern. They are the organizational entities that are able to act to achieve public policy and some semblance of the public interest. But, here, the agency perspective falls short. The public administrator should not see himself or herself "as an agent acting on behalf of others, yet doing so in a vigorous and thoughtful manner" (Wamsley, 1990, p. 115), but, rather, as an agent *through which* others are allowed to act. The difference may seem subtle, but it is critical. Public administrators, if they are to be the autopoietic agents of governmental change, must not cast themselves in the role of governmental "parents" who act

"on behalf of others," or as "stewards" that act for others, but as "instruments" through which the public acts for itself. This view of administrators as instruments is reminiscent of that suggested by Stivers (1990), in which "active" citizens and administrators interact through dialogue to develop public policies. Stivers view is important, since it, in effect, calls for an increase in the *variety* that government exhibits to its citizens.

Stivers, however, neglects the importance of governmental *design*. Administrators must do more than engage in dialogue with citizens, and find ways to share responsibilities with them. Administrators must be *active and intelligent* instruments. They must design the Coordination, Control, Intelligence, and Policy Systems, for which they have responsibility, so that the viable system at their particular level of recursion, and at lower levels, can support the minimal *aim* that "government of the people, by the people, and for the people, shall not perish . . .," while maximizing the ability of the system to respond to its environment. They must allow specifics of policy to *emerge* out of lower recursions, confident that their *designs* for Coordination, Control, Intelligence, and Policy Systems are supportive of the overall aim of government. They

must see government as composed of a *recursive network*, and not as a hierarchical bureaucracy.

The Role of Public Administration

The brain metaphor suggests that neutral competence is precisely the wrong role for public administration. Agencies are not passive, neutral machines designed as means to achieve ends desired by political masters. Nor, for that matter, are they portions of some governmental organism, separate and distinct from its environment. Agencies, and the administrators who staff them at all levels of recursion, are the grey matter of government - neurons - interconnected with, influencing, and influenced by their environments in innumerable ways.

The brain metaphor allows us to see the public and the government as a system, and to speculate about how to change the dynamics of that system. An unbalance between authorization and accountability in one part of government has an effect on the other parts. The more Congress tries to increase its own accountability to the public, the more it forces authoritarian regulations and structure on the operational agencies. The less respon- sive the operational agencies are to public desires, the more the public presses for the president and the legis- lature to exercise control over the bureaucracy. To

allow the system to return to a balance between stability and adaptability, it is necessary to interrupt, or modify, this negative feedback loop.

The key to re-establishing balance lies in the administrative state itself, not in Congress. Madison believed that the "best" people would govern based on reason, not on passions. In this increasingly knowledge-based society the "best" people are those with the expertise -- technical and otherwise -- to make decisions based on reason. This is a strength of the public service, which consists of a high percentage of people with education and expertise in issues of concern to government and the public.[3]

This strength is not enough, however. Kooiman (1993) has pointed out that the social problems that public administrators are asked to solve are largely the result of complex, perhaps chaotically interacting, relationships and factors. The technical and political knowledge about these problems and their possible solutions is widely dispersed over many actors within many parts of government, and outside government. Policy objectives are not easily defined and must be revised frequently. Uncertainty is the rule. Because of this, "Governing in contemporary society is mainly a process of

coordination, steering, influencing and 'balancing'" the interactions between actors (Kooiman, 1993, p. 255).

According to Offe (1984), administrative action tends increasingly to produce outcomes not as the result of the authoritative implementation of pre-established rules, but as "the result of a co-production of the administration and its clients" (Offe, 1984, p. 310). Kooiman contends that new governing forms are required, because traditional forms "based on a top-down perspective or a rational-central-rule approach" are becoming less attractive as government and society become more complex (Kooiman, 1993, p. 255).

Both Kooiman and Offe come close to the perspective suggested by the brain metaphor and the VSM. If operational government, despite severe limitations on its variety, can become even somewhat more directly accountable to the public by convincing the people that they are "co-producers" of government, the public's sense of representation will increase. An increase in the public's sense of representation would concurrently increase the legitimacy of the administrative state. Increased legitimacy would likely decrease citizen-manager pressure on Congress and the President for greater accountability. With decreased public pressure, Congress and the President could be somewhat less

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concerned about public opinion, offering opportunities for public administrators to seek more independence and discretion. Decreased micromanagement of governmental operations would decrease the variety restrictions on departments and agencies, permitting them still more ability to respond to the variety presented by citizen-customers, through less authoritarian organizational structures and increased ability to respond directly and competently to public issues, increasing the public sense of representation, and so on in a self-reinforcing loop.

The obvious question is how can this kind of change in the public service be initiated. Some possible answers are available. Quality management, also known as Total Quality Management, or TQM, is thought by many to be just another management fad, or "flavor of the month." It is, however, grounded in a management philosophy that is fundamentally different from the Scientific Management philosophy that has deeply influenced public administration. This new philosophy is best explained and advocated by W. Edwards Deming (Deming, 1986, 1993). Deming's theory of management is heavily based in the brain, or "learning system" metaphor, and involves a holistic view of organizations as systems thoroughly interconnected with their environments (Little, 1994).

The private sector's application of the Deming

theories, commonly called TQM, emphasizes an

organizational focus on quality and satisfaction of

customers. The TQM practice and techniques have spread

widely throughout the private sector, and are in various

states of adoption within government at State and local,

as well as Federal levels (Cohen & Brand, 1993). Recent

books by Linden (1990), Osborne (1990), and Osborne and

Gaebler (1992) describe governmental approaches that are,

at least partly, based in this new philosophy.

"Orthodox" TQM, however, has been criticized as poorly

adapted to problems of government, presenting problems,

among other things, in defining the government customer

(Swiss, 1992). The core Deming theory, however, is not

based in assumptions of the private sector[4] , but in a

systems view, together with a specific understanding of

psychology, a theory of variation, and a theory of

knowledge, or epistemology that is based in American

Pragmatism (Little, 1994). The task for public

administrators is to interpret this theory in ways that

are applicable to the public sector and to develop or

adapt appropriate techniques.

The Deming philosophy, if largely adopted by

government and adapted to its requirements, may well

provide a force sufficient to re-balance the governmental system, provided that the "customer" that government focuses on is the "citizen-customer." Agencies that define their "customers" in a narrow sense of "client" or "interest group," or some similar narrow class must be extremely careful to avoid actions that favor client-customers while ignoring the interests of citizen-customers. Such suboptimization can only occur at the long-term cost of legitimacy and viability.

If we call what the people want "the voice of the people," and what government does, "the voice of government," then the task of government is to act in ways that bring those two "voices" ultimately into alignment. It would be entirely wrong, moreover, for agencies (or other parts of government) to simply survey the public and do what the majority wants. The majority may not fully know what it wants, or be ignorant of the implications. Government's job, in which public administrators must play key roles, is to work to move both the voice of the people and the voice of government closer together, not only through increased responsiveness, and quality, but through citizen education, dialogue, openness to innovative proposals, analyzing and recommending alternatives, lobbying, and doing all the other things that produce "active

citizenship" (Stivers, 1990), or that act to bring the voices of the people and of their government into greater alignment, and increased legitimacy.

The ability of public administrators to do these things may be severely limited, since the variety restricting feedback loop has been in operation for some time. There seem to be few alternatives, however. The public is not likely to change spontaneously, and the dynamics of the political system in which actual and potential Presidents and Congressmen tends to reinforce government's variety-reducing feedback loop. Vice President Gore's National Performance Review (Gore, 1993), represents a potential exception. A great many of National Performance Reviews recommendations are intended to increase the variety available to governments Operational Systems. To the extent that recommendations to *deregulate* government are implemented, public administrators will gain freedom, and an increased opportunity to act. There is a limit, however, to the amount of deregulation that is desirable. Some form of Coordination and Control Systems are required in order to maintain stability. The problem is to *design* ones that support the aims of increasing the public sense that their government is *of the people*, *by the people,* and *for the people*.

A Framework for Public Administration - Summary and Agenda

The structural view of governance, relying on a "brain," or "learning system" as the dominant metaphor, leads to an understanding of "public administration" as dealing with the operation of government. As such, public administrators are concerned with carrying out the *actions* of government. But the principle of recursivity implies that public administrators, depending upon the level of recursion upon which they are dealing with, are not merely part of an Operational System of government, but are also, for example, designers and implementors of the Coordination, Control, Intelligence, or Policy Systems of their own recursion, and are responsible for design of Coordinating Systems and audit channels for lower recursions. Furthermore, public administrators are parts of other, non-governmental, viable systems, often as a part of, or responsible for design of, its System Two. Administrators, through their involvement as part of governmental operations, are involved not merely in the autopoietic generation of government itself, but of major portions of society.

The nature of autopoiesis - the generation of new forms in response to, and in interaction with, the environment - is such that public administrators (or

politicians, for that matter) have little ability to form or control the surface features of the government that results. Public administrators *do*, however, have the ability, within the limits of their permitted variety, to influence the ability of government to respond autopoietically to threats to its viability. Public administrators may best do this by striving to improve the management of variety at all levels of government. They should see themselves as *designers* of Operational, Coordination, Control, Intelligence, and Policy Systems at their own levels of recursion. As *designers*, they develop, implement, and continuously improve these Systems in order to achieve the *aim* of government - that it be of, by, and for the people. They must recognize that the *tool* for this design, the VSM, is inherently *non-hierarchical*, and *non-bureaucratic*. It emphasizes maximum freedom, while achieving the aim, and maintaining the minimum stability necessary for viability.

To facilitate this design, the study and teaching of public administration needs to put greater emphasis on "structural" issues, including theories, like Deming's and Beer's, that deal with the management of complex, dynamical, social institutions. Schools of public administration need to invest more effort in identifying, developing, adapting, and teaching techniques that

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operationalize these theories in governmental contexts. They should put more emphasis on government as *structure*, and less emphasis on government as *policy*. They need to identify, study, and critique Coordination, Control, Intelligence, and Policy Systems at varying recursion levels, in order to develop better understanding of how each of these Systems does, or does not, support the aims of government. They need to de-emphasize attempts to generalize administrative processes that constitute "surface" phenomena, such as policy analysis, budgeting, personnel management, and other administrative processes. Instead, they should concentrate on how these processes can best be designed to maintain stability, without unduly restricting variety.

The reframing of governance in terms of a *brain* metaphor, and especially in terms of Stafford Beer's Viable Systems Model has led to an *agenda* for increasing government's legitimacy. This agenda is not merely some vague intent to shift the political dialogue. It consists, instead, of a whole series of actions intended to facilitate the alignment of "the voice of the people" with "the voice of government." This agenda is based in increased understanding of the *structures* of government and society, and of the ways that complexity is managed within these structures. This understanding, in turn, is

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the result of a complementarist position that enables
rigor, through the use of systems theories and
methodologies, without the *rigidity* that is forced upon
us the restriction of one sociological paradigm.

Conclusion

The adaptation of the Total Systems Intervention
meta-methodology and A System of Systems Methodologies
has led to a reframing of public administration and its
role in governance. This reframing has been collateral
to a view of government as a "viable system" that is
tightly interconnected -- that both is influenced by and
influences -- its environment. In this systems view,
legitimacy is an integral part of the "aim" of the system
"government," and problems with the legitimacy of the
administrative state can be seen as resulting from a
negative feedback process that has reduced the variety
with which government could respond to its citizens.

Restoring legitimacy of the administrative state,
indeed of government itself, requires that this negative
feedback loop be reversed, allowing the operational
portions of government -- the departments and agencies --
to perform their required action as the autopoietic
generators of governmental change. It seems unlikely
that the political system will allow our elected leaders

to initiate such a change. The task is left, therefore, to public administrators, who have very little room (or very little variety) left in which to act.

Notes to Chapter 8

1. Acknowledgement is duly made to Charles Fox, for the phrase and its application in this context.

2. It is true that an individual may complain about a particular governmental service, or even a particular agency. Services provided by motor vehicle agencies or the Postal Service come to mind. Nevertheless, these individual experiences seem mostly to confirm their impression of "damn guv'ment," not simply to suggest that particular services need to be improved.

3. It is true that this strength is also a danger, but increased discretion does not mean unlimited discretion. The dangers can be kept to acceptable levels by balancing increased discretion with increased use of audit channels.

4. In this regard, the Deming theories, and Beers VSM are similar, in that they both structuralist views. Both theorists address themselves to the "deep structure" that is common to all organizations, regardless of the large variation in surface phenomena that is visible to observers. In this view, government, while substantially different from the private sector in terms of observable phenomena, is substantially similar in terms of underlying structure.

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