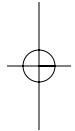
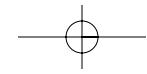
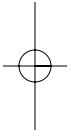


Theories of the Policy Process



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Edited by

Paul A. Sabatier

University of California, Davis



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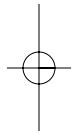
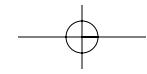
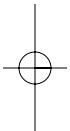
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PART ONE

Introduction



1

The Need for Better Theories

PAUL A. SABATIER

In the process of public policymaking, problems are conceptualized and brought to government for solution; governmental institutions formulate alternatives and select policy solutions; and those solutions get implemented, evaluated, and revised.

SIMPLIFYING A COMPLEX WORLD

For a variety of reasons, the policy process involves an extremely complex set of elements that interact over time:

1. There are normally hundreds of actors from interest groups, governmental agencies, legislatures at different levels of government, researchers, journalists, and judges involved in one or more aspects of the process. Each of these actors (either individual or corporate) has potentially different values/interests, perceptions of the situation, and policy preferences.
2. This process usually involves time spans of a decade or more, as that is the minimum duration of most policy cycles, from emergence of a problem through sufficient experience with implementation to render a reasonably fair evaluation of a program's impact (Kirst and Jung 1982; Sabatier and Jenkins-Smith 1993). A number of studies suggest that periods of twenty to forty years may be required to obtain a reasonable understanding of the impact of a variety of socioeconomic conditions and to accumulate scientific knowledge about a problem (Derthick and Quirk 1985; Baumgartner and Jones 1993; Eisner 1993).
3. In any given policy domain, such as air pollution control or health policy, there are normally dozens of different programs involving multiple levels of government that are operating, or are being proposed for operation, in any given locale, such as the state of California or the city

of Los Angeles. Since these programs deal with interrelated subjects and involve many of the same actors, many scholars would argue that the appropriate unit of analysis should be the policy subsystem or domain, rather than a specific governmental program (Hjern and Porter 1981; Ostrom 1983; Sabatier 1986; Rhodes 1988; Jordan 1990).

4. Policy debates among actors in the course of legislative hearings, litigation, and proposed administrative regulations typically involve very technical disputes over the severity of a problem, its causes, and the probable impacts of alternative policy solutions. Understanding the policy process requires attention to the role that such debates play in the overall process.
5. A final complicating factor in the policy process is that most disputes involve deeply held values/interests, large amounts of money, and, at some point, authoritative coercion. Given these stakes, policy disputes seldom resemble polite academic debates. Instead, most actors face enormous temptations to present evidence selectively, to misrepresent the position of their opponents, to coerce and discredit opponents, and generally to distort the situation to their advantage (Riker 1986; Moe 1990a, 1990b; Schlager 1995).

In short, understanding the policy process requires knowledge of the goals and perceptions of hundreds of actors throughout the country involving possibly very technical scientific and legal issues over periods of a decade or more while most of those actors are actively seeking to propagate their specific "spin" on events.

Given the staggering complexity of the policy process, the analyst must find some way of simplifying the situation in order to have any chance of understanding it. One simply cannot look for, and see, everything. Work in the philosophy of science and social psychology has provided persuasive evidence that perceptions are almost always mediated by a set of presuppositions. These perform two critical mediating functions. First, they tell the observer what to look for; that is, what factors are likely to be critically important versus those that can be safely ignored. Second, they define the categories in which phenomena are to be grouped (Kuhn 1970; Lakatos 1971; Brown 1977; Lord, Ross, and Lepper 1979; Hawkesworth 1992; Munro et al. 2002).

To understand the policy process, for example, most institutional rational choice approaches tell the analyst (1) to focus on the leaders of a few critical institutions with formal decisionmaking authority, (2) to assume that these actors are pursuing their material self-interest (e.g., income, power, security), and (3) to group actors into a few institutional categories, for example, legislatures, administrative agencies, and interest groups (Shepsle 1989; Scharpf 1997). In contrast, the advocacy coalition framework tells the analyst to assume (1) that belief systems are more important than institutional affiliation, (2) that actors may

be pursuing a wide variety of objectives, which must be measured empirically, and (3) that one must add researchers and journalists to the set of potentially important policy actors (Sabatier and Jenkins-Smith 1993). Thus, analysts from these two different perspectives look at the same situation through quite different lenses and are likely to see quite different things, at least initially.

STRATEGIES FOR SIMPLIFICATION

Given that we have little choice but to look at the world through a lens consisting of a set of simplifying presuppositions, at least two quite different strategies exist for developing such a lens. On the one hand, the analyst can approach the world in an implicit, ad hoc fashion, using whatever categories and assumptions that have arisen from his or her experience. This is essentially the method of common sense. It may be reasonably accurate for situations important to the analyst's welfare in which she or he has considerable experience. In such situations, the analyst has both the incentive and the experience to eliminate clearly invalid propositions. Beyond that limited scope, the commonsense strategy is likely to be beset by internal inconsistencies, ambiguities, erroneous assumptions, and invalid propositions, precisely because the strategy does not contain any explicit methods of error correction. Since its assumptions and propositions remain implicit and largely unknown, they are unlikely to be subjected to serious scrutiny. The analyst simply assumes they are, by and large, correct—insofar as he or she is even cognizant of their content.

An alternative strategy is that of science. Its fundamental ontological assumption is that a smaller set of critical relationships underlies the bewildering complexity of phenomena. For example, a century ago Darwin provided a relatively simple explanation—summarized under the processes of natural selection—for the thousands of species he encountered on his voyages. The critical characteristics of science are that (1) its methods of data acquisition and analysis should be presented in a sufficiently public manner that they can be replicated by others; (2) its concepts and propositions should be clearly defined and logically consistent and should give rise to empirically falsifiable hypotheses; (3) those propositions should be as general as possible and should explicitly address relevant uncertainties; and (4) both the methods and concepts should be self-consciously subjected to criticism and evaluation by experts in that field (Nagel 1961; Lave and March 1975; King, Keohane, and Verba 1994). The overriding strategy can be summarized in the injunction: Be clear enough to be proven wrong. Unlike "common sense," science is designed to be self-consciously error seeking, and thus self-correcting.

A critical component of that strategy—derived from principles 2–4 above—is that scientists should develop clear and logically interrelated sets of propositions, some of them empirically falsifiable, to explain fairly general sets of phenomena. Such coherent sets of propositions have traditionally been termed theories.

Elinor Ostrom has developed some very useful distinctions among three different sets of propositions (see Chapter 2 of this volume). (1) In her view, a “conceptual framework” identifies a set of variables and the relationships among them that presumably account for a set of phenomena. The framework can provide anything from a modest set of variables to something as extensive as a paradigm. It need not identify directions among relationships, although more developed frameworks will certainly specify some hypotheses. (2) A “theory” provides a denser and more logically coherent set of relationships. It applies values to some of the variables and usually specifies how relationships may vary depending upon the values of critical variables. Numerous theories may be consistent with the same conceptual framework. (3) A “model” is a representation of a specific situation. It is usually much narrower in scope, and more precise in its assumptions, than the underlying theory. Ideally, it is mathematical. Thus, frameworks, theories, and models can be conceptualized as operating along a continuum involving increasing logical interconnectedness and specificity but decreasing scope.

One final point: Scientists should be aware of, and capable of applying, several different theoretical perspectives—not just a single one (Stinchcomb 1968; Loehle 1987). First, knowledge of several different perspectives forces the analyst to clarify differences in assumptions across frameworks, rather than implicitly assuming a given set. Second, multiple perspectives encourage the development of competing hypotheses that should ideally lead to “strong inference” (Platt 1964), or at least to the accumulation of evidence in favor of one perspective over another. Third, knowledge and application of multiple perspectives should gradually clarify the conditions under which one perspective is more useful than another. Finally, multiple perspectives encourage a comparative approach: Rather than asking if theory X produces statistically significant results, one asks whether theory X explains more than theory Y.

Consistent with this multiple-lens strategy, the original edition of this volume discussed seven conceptual frameworks. A few of them—notably, institutional rational choice—have given rise to one or more theories, and virtually all have spawned a variety of models seeking to explain specific situations.

THEORETICAL FRAMEWORKS OF THE POLICY PROCESS

The Stages Heuristic

Until the mid-1980s, the most influential framework for understanding the policy process—particularly among American scholars—was the “stages heuristic,” or what Nakamura (1987) termed the “textbook approach.” As developed by Lasswell (1956), Jones (1970), Anderson (1975), and Brewer and deLeon (1983), it divided the policy process into a series of stages—usually agenda setting, policy formulation and legitimization, implementation, and evaluation—and discussed some of the factors affecting the process within each stage. The stages heuristic

served a useful purpose in the 1970s and early 1980s by dividing the very complex policy process into discrete stages and by stimulating some excellent research within specific stages—particularly agenda setting (Cobb, Ross, and Ross 1976; Kingdon 1984; Nelson 1984) and policy implementation (Pressman and Wildavsky 1973; Hjern and Hull 1982; Mazmanian and Sabatier 1983).

Beginning in the late 1980s, however, the stages heuristic was subjected to some devastating criticisms (Nakamura 1987; Sabatier 1991; Sabatier and Jenkins-Smith 1993):

1. It is not really a causal theory since it never identifies a set of causal drivers that govern the policy process within and across stages. Instead, work within each stage has tended to develop on its own, almost totally without reference to research in other stages. In addition, without causal drivers there can be no coherent set of hypotheses within and across stages.
2. The proposed sequence of stages is often descriptively inaccurate. For example, evaluations of existing programs affect agenda setting, and policy formulation/legitimation occurs as bureaucrats attempt to implement vague legislation (Nakamura 1987).
3. The stages heuristic has a very legalistic, top-down bias in which the focus is typically on the passage and implementation of a major piece of legislation. This focus neglects the interaction of the implementation and evaluation of numerous pieces of legislation—none of them preeminent—within a given policy domain (Hjern and Hull 1982; Sabatier 1986).
4. The assumption that there is a single policy cycle focused on a major piece of legislation oversimplifies the usual process of multiple, interacting cycles involving numerous policy proposals and statutes at multiple levels of government. For example, abortion activists are currently involved in litigation in the federal courts and most state courts, in new policy proposals in Washington and most of the states, in the implementation of other proposals at the federal and state levels, and in the evaluation of all sorts of programs and proposed programs. They're also continually trying to affect the conceptualization of the problem. In such a situation—which is common—focusing on “a policy cycle” makes very little sense.

The conclusion seems inescapable: The stages heuristic has outlived its usefulness and needs to be replaced with better theoretical frameworks.

MORE PROMISING THEORETICAL FRAMEWORKS

Fortunately, over the past twenty years a number of new theoretical frameworks of the policy process have been either developed or extensively modified. The 1999

edition of this book sought to present some of the more promising ones and to assess the strengths and limitations of each.¹

Following are the criteria utilized in selecting the frameworks to be discussed. They strike me as relatively straightforward, although reasonable people may certainly disagree with my application of them:

1. Each framework must do a reasonably good job of meeting the criteria of a scientific theory; that is, its concepts and propositions must be relatively clear and internally consistent, it must identify clear causal drivers, it must give rise to falsifiable hypotheses, and it must be fairly broad in scope (i.e., apply to most of the policy process in a variety of political systems).
2. Each framework must be the subject of a fair amount of recent conceptual development and/or empirical testing. A number of currently active policy scholars must view it as a viable way of understanding the policy process.
3. Each framework must be a positive theory seeking to explain much of the policy process. The theoretical framework may also contain some explicitly normative elements, but these are not required.
4. Each framework must address the broad sets of factors that political scientists looking at different aspects of public policymaking have traditionally deemed important: conflicting values and interests, information flows, institutional arrangements, and variation in the socioeconomic environment.

By means of these criteria, seven frameworks were selected for analysis in the 1999 edition of this book. Following is a brief description and justification for each selection.

The Stages Heuristic. Although I have doubts that the stages heuristic meets the first and second criteria above, there is certainly room for disagreement on whether it meets the second. In particular, implementation studies appeared to undergo a revival in the late 1990s (Lester and Goggin 1998). Even were that not the case, I have spent so much time criticizing the stages heuristic that simple fairness required me to provide a forum for its defense. Peter deLeon, one of the earliest proponents of the heuristic, volunteered to be the spokesperson.

Institutional Rational Choice. Institutional rational choice is a family of frameworks focusing on how institutional rules alter the behavior of intendedly rational individuals motivated by material self-interest. Although much of the literature on institutional rational choice focuses on rather specific sets of institutions, such as the relationships between Congress and administrative agencies in the United States (Moe 1984; Shepsle 1989; Miller 1992), the general framework

is extremely broad in scope and has been applied to important policy problems in the United States and other countries (Ostrom 1986, 1990; Ostrom, Schroeder, and Wynne 1993; Ostrom, Gardner, and Walker 1994; Scholz, Twombly, and Headrick 1991; Chubb and Moe 1990; Dowding 1995; Scharpf 1997). It is clearly the most developed of all the frameworks in this volume and is arguably the most utilized in the United States and perhaps in Germany. Elinor Ostrom agreed to write the chapter for this volume.

Multiple-Streams. The multiple-streams framework was developed by John Kingdon (1984) based upon the “garbage can” model of organizational behavior (Cohen, March, and Olsen 1972). It views the policy process as composed of three streams of actors and processes: a problem stream consisting of data about various problems and the proponents of various problem definitions; a policy stream involving the proponents of solutions to policy problems; and a politics stream consisting of elections and elected officials. In Kingdon’s view, the streams normally operate independently of each other, except when a “window of opportunity” permits policy entrepreneurs to couple the various streams. If the entrepreneurs are successful, the result is major policy change. Although the multiple-streams framework is not always as clear and internally consistent as one might like, it appears to be applicable to a wide variety of policy arenas and was cited about eighty times annually in the Social Science Citation Index. John Kingdon is the obvious author for this chapter; however, he declined. I then selected Nikolaos Zahariadis, who had utilized the multiple-streams framework extensively in his own research (Zahariadis 1992, 1995, 2003).

Punctuated-Equilibrium Framework. Originally developed by Baumgartner and Jones (1993), the punctuated-equilibrium (PE) framework argues that policymaking in the United States is characterized by long periods of incremental change punctuated by brief periods of major policy change. The latter come about when opponents manage to fashion new “policy images” and exploit the multiple policy venues characteristic of the United States. Originally developed to explain changes in legislation, this framework has been expanded to include some very sophisticated analyses of long-term changes in the budgets of the federal government (Jones, Baumgartner, and True 1998). The PE framework clearly meets all four criteria, at least for systems with multiple policy venues. The chapter for this volume is coauthored by its original proponents, Frank R. Baumgartner and Bryan D. Jones, together with James L. True.

The Advocacy Coalition Framework. Developed by Sabatier and Jenkins-Smith (1988, 1993), the advocacy coalition framework (ACF) focuses on the interaction of advocacy coalitions—each consisting of actors from a variety of institutions who share a set of policy beliefs—within a policy subsystem. Policy change is a function of both competition within the subsystem and events outside

the subsystem. The framework spends a lot of time mapping the belief systems of policy elites and analyzing the conditions under which policy-oriented learning across coalitions can occur. It has stimulated considerable interest throughout the countries of the Organization for Economic Cooperation and Development (OECD)—including some very constructive criticism (Schlager 1995). Paul Sabatier and Hank C. Jenkins-Smith are clearly qualified to assess the implications of these recent applications.

The frameworks discussed thus far have all focused on explaining policy change within a given political system or set of institutional arrangements (including efforts to change those arrangements). The next two frameworks seek to provide explanations of variation across a large number of political systems.

Policy Diffusion Framework. The policy diffusion framework was developed by Berry and Berry (1990, 1992) to explain variation in the adoption of specific policy innovations, such as a lottery, across a large number of states (or localities). It argues that adoption is a function of both the characteristics of the specific political systems and a variety of diffusion processes. Recently, Mintrom and Vergari (1998) integrated this framework with the literature on policy networks. The diffusion framework has thus far been utilized almost exclusively in the United States. It should, however, apply to variation among countries or regions within the European Union, the OECD, or any other set of political systems. The authors of the chapter in this volume were Frances Stokes Berry and William D. Berry, the original developers of the framework.

The Funnel of Causality and Other Frameworks in Large-N Comparative Studies. Finally, we turn to a variety of frameworks that were extremely important in the United States in the 1960s and 1970s in explaining variation in policy outcomes (usually budgetary expenditures) across large numbers of states and localities (Dye 1966, 1991; Sharkansky 1970; Hofferbert 1974). These began as very simple frameworks seeking to apportion the variance among background socioeconomic conditions, public opinion, and political institutions—although they became somewhat more sophisticated over time (Mazmanian and Sabatier 1981; Hofferbert and Urice 1985). Although interest in this approach has declined somewhat in the United States, it is still popular in OECD countries, particularly for explaining variation in social welfare programs (Flora 1986; Klingeman, Hofferbert, and Budge 1994; Schmidt 1996). The author for this chapter is William Blomquist. Although he has contributed to this literature (Blomquist 1991), he is not a major proponent—and thus differs from all the other chapter authors. He was selected because I expected him to be critical of the “black box” features of this framework and to seek to integrate it with other literatures, particularly institutional rational choice. Although those expectations were never communicated to him, he wound up doing a superb job of fulfilling them.

WHAT'S NEW IN THE SECOND EDITION?

The first (1999) edition of this book has been quite successful. It has sold about 1,000 copies per year for seven years. It has generally received favorable reviews (Dudley 2000; Parsons 2000; Radaelli 2000; Skogstad 2001; Theodoulou 2001). It has substantially accomplished what it set out to do: namely, to provide first-rate introductions to a set of the most promising theories of the policy process, together with some insightful comparisons.

Nevertheless, the first edition has been subjected to at least two major criticisms. First, it has been justly taken to task for its “overwhelming focus on the American literature” (Skogstad 2001). All of the authors were American. The only chapter that referenced a significant non-American literature was Ostrom, whose IAD framework has largely been used in developing countries. Several of the chapters—particularly those covering the ACF and punctuated equilibrium—implicitly assumed that the basic features of American pluralism (multiple venues, majoritarian rule, weak political parties, politicized bureaucracies) were the norm everywhere. There was no acknowledgment of corporatist and authoritarian regimes, which are prevalent in many European and developing countries.

Second, the first edition was criticized for its narrow selection criteria, particularly for only including frameworks that followed scientific norms of clarity, hypothesis-testing, acknowledgement of uncertainty, etc. Since I am unequivocally a social scientist, this criticism fell on deaf ears (Sabatier 2000). A related criticism was that the first edition ignored social constructionist frameworks, largely on grounds that they don't follow scientific norms. But Helen Ingram and Anne Schneider convinced me that their particular constructionist framework (Schneider and Ingram 1997) met those norms and thus ought to be included in the book.

The second edition addresses these criticisms in a number of ways. In reaction to the charge of American chauvinism, the new edition:

- Adds a new chapter on network analysis written by two Europeans, Hanspeter Kriesi and Silke Adam of the University of Zurich. They were selected over possible competitors (e.g., Knoke and Laumann) because their concepts and arguments are clearer.²
- Adds new chapters on network analysis and social construction, both of which are very prominent topics in the European and Commonwealth literature.
- Revises several chapters—particularly those covering the ACF and PE—to no longer assume American pluralism as the norm. Most other chapters increased their coverage of the non-American literature.

As for the neglect of social construction, the new edition adds a chapter on that topic by Ingram and Schneider.

Given my doubts about the utility of the stages heuristic and the need to find space for two more promising frameworks, the chapter on the stages heuristic has been deleted from the second edition.

Finally, since one indicator of a viable research program is evidence that scholars beyond those who initiate the program expand it to other contexts, I have encouraged contributors to this volume to include in their chapter a table or appendix listing published studies employing the model/framework in different situations.³ Most of the authors have chosen to do so, although the format utilized varies substantially from chapter to chapter.

PLAN OF THE BOOK

With respect to each of the eight theoretical frameworks selected for discussion, I have asked one of its principal proponents to present a brief history, to discuss its underlying principles and propositions, to analyze recent empirical evidence and revisions, to evaluate the strengths and limitations of the framework, and to suggest directions for future development.

After this introductory chapter, the next major section contains analyses of three frameworks that differ substantially concerning their assumptions of individual and collective rationality. Institutional rational choice frameworks assume that policy actors are "intendedly rational"; that is, they seek to realize a few goals efficiently but must overcome some obstacles (including imperfect information) to do so. The assumption is that policy problems and options are relatively well defined, but ascertaining the probable consequences of those alternatives is problematic. In contrast, Kingdon's multiple-streams model assumes that most policy situations are cloaked in "ambiguity," that is, lacking clear problem definitions and goals. In addition, serendipity and chance play a major role in the multiple-streams framework. In the Ingram and Schneider social construction approach, actors' perceptions of reality are strongly influenced by "social constructions" of the worthiness (virtue) and power of various target populations.

The third section presents three frameworks that seek to explain policy change over fairly long periods of time within a policy subsystem/domain: the punctuated-equilibrium framework of Jones et al., the advocacy coalition framework of Sabatier et al., and the policy network analysis of Kriesi et al. Although these three frameworks have similar dependent variables, they differ in several respects—most notably, in the relative importance of the general public versus policy elites, the model of the individual, and the importance of institutional context.

The fourth section contains two frameworks that typically seek to explain variation in policy decisions across large numbers of political systems. I had considered combining these into a single chapter but decided against it for two reasons. First, the diffusion models discussed by Berry and Berry are really a significant addition to the traditional set of state/local system variables discussed by Sharkansky/Dye/Hofferbert. Second, I very much wanted to have a critique of

the “black box” character of the Sharkansky et al. models on the record, which I knew I could count on from Blomquist.

The final section contains two concluding chapters. The first is a comparison of the various theoretical frameworks, including comparisons of their dependent variables, the critical independent variables, the strengths and weaknesses of each, and some speculations about how they might be integrated and/or more clearly differentiated. The author is Edella Schlager, who has already revealed herself to be extremely talented at this sort of comparative analysis (Schlager 1995; Schlager and Blomquist 1996). In the last chapter, I suggest several strategies for advancing the state of policy theory.

The goal of this book is to advance the state of policy theory by presenting several of the more promising frameworks and by inviting the reader to compare the strengths and limitations of each. At the end of the day, the reader will hopefully have a repertoire of two or three frameworks that she or he is familiar with and adept at employing.

NOTES

1. Just to show that my tastes are not totally idiosyncratic, the list of “synthetic theories” developed by Peter John (1998) includes the advocacy coalition framework, punctuated equilibrium, and multiple streams. Earlier in the book, he includes socioeconomic approaches, institutions, rational choice, and ideas. I have grouped most of the last into a constructivist paradigm in the next section. My list also overlaps considerably those of Parsons (1996) and Muller and Surel (1998).

2. For example, in Knoke et al. (1996) “interest” is used both for “a topic of concern” and a “goal” (p.13). In addition, the critical discussion of organization interests in specific settings (pp. 21–22) is quite confusing. In contrast, Kriesi’s work (Kriesi and Jegen 2001) is very clear.

3. I wish to thank Bill Berry for clarifying this argument.

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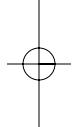
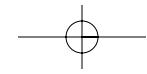
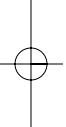
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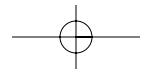
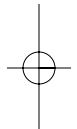
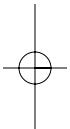
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PART TWO

Alternative Views of the Role of Rationality in the Policy Process



2

Institutional Rational Choice

An Assessment of the Institutional Analysis and Development Framework

ELINOR OSTROM

When Paul Sabatier asked me to do an assessment of institutional rational choice, I responded that the field was too big for one person to do an assessment of all the work that might be covered by the term. Instead of trying an assessment of such a broad array of literature, I focus more specifically on the institutional analysis and development (IAD) framework that has evolved out of the work of many colleagues at the Workshop in Political Theory and Policy Analysis at Indiana University. Undertaking an overview and assessment of the IAD framework proves to be quite a challenge in 2006 given all of the attention paid to it in recent years.

The publication of “The Three Worlds of Action: A Metatheoretical Synthesis of Institutional Approaches” (Kiser and Ostrom 1982) represents the initial published attempt to develop a general framework to help integrate work undertaken by political scientists, economists, anthropologists, geographers, lawyers, social psychologists, and others interested in how institutions affect the incentives confronting individuals and their resultant behavior.¹ During the two plus decades since this publication, the framework has been further developed and applied to the analysis of a diversity of empirical settings (see Table 2.1). After many requests, I have finally devoted an entire book to explication of the full framework as it has developed over the years (E. Ostrom 2005). The elements involved in the framework are closely related to concepts that play an important role in related theories, such as those represented in the work of Douglass C.

North, Oliver Williamson, and others in the “new institutional economics” tradition (see Eggertsson 1990, 2005).

Two important aspects of the IAD framework were developed in the initial article with Larry Kiser. One aspect is the distinction among three tiers of decision making and the relations among them: constitutional, collective choice, and operational decisions. The second is the elucidation of the fundamental elements that can be used for analysis of outcomes and their evaluation at any of the three tiers of decision making. In this chapter, I will present an updated version of the framework in light of the additional work undertaken since 1982 and of theories and models consistent with this framework. I will conclude with a brief assessment of the utility of this tool for institutional analysis. Before I do this, however, I wish to indicate some of the difficulties that confront those interested in understanding incentives, institutions, and outcomes.

CHALLENGES

Various aspects of the IAD approach are clarified by becoming aware of the difficulties to be overcome in undertaking any form of institutional analysis. Here is an initial list of what I consider the key difficulties involved in studying institutions:

1. The term “institution” refers to many different types of entities, including both organizations and the rules used to structure patterns of interaction within and across organizations.
2. Although the buildings in which organized entities are located are quite visible, institutions themselves are invisible.
3. To develop a coherent approach to studying diverse types of institutional arrangements, including markets, hierarchies, firms, families, voluntary associations, national governments, and international regimes, one needs multiple inputs from diverse disciplines.
4. Given the multiple languages used across disciplines, a coherent institutional framework is needed to allow for expression and comparison of diverse theories and models of theories applied to particular puzzles and problem settings.
5. Decisions made about rules at any one level are usually made within a structure of rules existing at a different level. Thus, institutional studies need to encompass multiple levels of analysis.
6. At any one level of analysis, combinations of rules, attributes of the world, and communities of individuals involved are combined in a configural rather than an additive manner.

Let us briefly discuss these issues before turning to the IAD approach.

Multiple Definitions of Institutions

It is hard to make much progress in the study of institutions if scholars define the term “institution” as meaning almost anything. A major confusion exists between scholars who use the term to refer to an organizational entity such as the U.S. Congress, a business firm, a political party, or a family, and scholars who use the term to refer to the rules, norms, and strategies adopted by individuals operating within or across organizations. In this chapter, I will use the term “institution” in the latter sense, to refer to the shared concepts used by humans in repetitive situations organized by rules, norms, and strategies (see Crawford and Ostrom 2005). By rules, I mean shared prescriptions (must, must not, or may) that are mutually understood and predictably enforced in particular situations by agents responsible for monitoring conduct and for imposing sanctions. By norms, I mean shared prescriptions that tend to be enforced by the participants themselves through internally and externally imposed costs and inducements. By strategies, I mean the regularized plans that individuals make within the structure of incentives produced by rules, norms, and expectations of the likely behavior of others in a situation affected by relevant physical and material conditions.²

Invisibility of Institutions

One of the most difficult problems to overcome in the study of institutions is how to identify and measure them. Because institutions are fundamentally shared concepts, they exist in the minds of the participants and sometimes are shared as implicit knowledge rather than in an explicit and written form. One of the problems facing scholars and officials is learning how to recognize the presence of institutions on the ground. The primitive physical structures that embed property-rights systems that farmers have constructed over time look flimsy to an engineer who considers real only structures built out of concrete and iron. These flimsy structures, however, are frequently used by individuals to allocate resource flows to participants according to rules that have been devised in tough constitutional and collective-choice bargaining situations over time.

In training researchers to identify and measure institutions, we stress the concept of rules-in-use rather than focusing on rules-in-form. Rules-in-use are referred to whenever someone new (such as a new employee or a child) is being socialized into an existing rule-ordered system of behavior. They are the dos and don’ts that one learns on the ground that may not exist in any written document. In some instances, they may actually be contrary to the dos and don’ts written in formal documents. Being armed with a set of questions concerning how X is done here and why Y is not done here is a very useful way of identifying rules-in-use, shared norms, and operational strategies.

Multiple Disciplines—Multiple Languages

Because regularized human behavior occurs within a wide diversity of rule-ordered situations that share structural features such as markets, hierarchies or firms, families, voluntary associations, national governments, and international regimes, no single discipline addresses all questions important for the study of human institutions. Understanding the kinds of strategies and heuristics that humans adopt in diverse situations is enhanced by the study of anthropology, economics, game theory, history, law, philosophy, political science, psychology, public administration, and sociology. Scholars within these disciplines learn separate technical languages. Meaningful communication across the social sciences can be extremely difficult to achieve (E. Ostrom 2006). When social scientists need to work with biologists and/or physical scientists, communication problems are even more difficult. One of the reasons for developing the IAD framework has been, therefore, to develop a common set of linguistic elements that can be used to analyze a wide diversity of problems.

Multiple Levels of Analysis

When individuals interact in repetitive settings, they may be in operational situations that directly affect the world, or they may be making decisions at other levels of analysis that eventually impinge on operational decision-making situations (Shepsle 1989). Multiple sources of structure are located at diverse analytical levels as well as diverse geographic domains. Biologists took several centuries to learn how to separate the diverse kinds of relevant structures needed to analyze both communities and individual biological entities. Separating phenotypical structure from genotypical structure was part of the major Darwinian breakthrough that allowed biologists to achieve real momentum and cumulation during the past century. The nested structure of rules within rules, within still further rules, is a particularly difficult analytical problem to solve for those interested in the study of institutions. Studies conducted at a macro level (see Kaminski 1992; V. Ostrom 1997; Allen 2005; Loveman 1993; Sawyer 1992, 2005) focus on constitutional structures. These affect collective-choice decisions as they eventually impinge on the day-to-day decisions of citizens and/or subjects. Studies conducted at a micro level (Firmin-Sellers 1996; Gibson, Williams, and Ostrom 2005) focus more on operational-level decisions as they are, in turn, affected by collective-choice and constitutional-choice rules, some, but not all, of which are under the control of those making operational decisions. Finding ways to communicate across these levels is a key challenge for all institutional theorists.

Configural Relationships

Successful analysis can cumulate rapidly when scholars have been able to examine a problem by separating it into component parts that are analyzed independently

and then recombining these parts additively. Many puzzles of interest to social scientists can be torn apart and recombined. Frequently, however, the impact on incentives and behavior of one type of rule is not independent of the configuration of other rules. Thus, the impact of changing one of the current rules that is part of a “welfare system” depends on which other rules are also in effect. Changing the minimum outside income that one can earn before losing benefits from one program, for example, cannot be analyzed independently of the effect of income on benefits derived from other programs.³ Similarly, analyzing the impact of changing the proportion of individuals who must agree prior to making an authoritative collective choice (e.g., 50 percent plus one) depends on the quorum rule in force. If a quorum rule specifying a low proportion of members is in effect, requiring two-thirds agreement may be a less stringent decision rule than a simple majority rule combined with a quorum rule requiring a high proportion of members. *Ceteris paribus* conditions are always essential for doing any theoretical work involving institutions. In the case of institutional analysis, one needs to know the value of other variables rather than simply asserting that they are held constant. This configurational nature of rules makes institutional analysis a more difficult and complex enterprise than studies of phenomena that are strictly additive.

INSTITUTIONAL FRAMEWORKS, THEORIES, AND MODELS

Given the need for multiple disciplines, and hence multiple disciplinary languages, and given the multiple levels of analysis involved in studying configural relationships among rules, relevant aspects of the world, and cultural phenomena, the study of institutions does depend on theoretical work undertaken at three levels of specificity that are often confused with one another. These essential foundations are (1) frameworks, (2) theories, and (3) models. Analyses conducted at each level provide different degrees of specificity related to a particular problem.

The development and use of a general framework helps to identify the elements and relationships among these elements that one needs to consider for institutional analysis. Frameworks organize diagnostic and prescriptive inquiry. They provide the most general list of variables that should be used to analyze all types of institutional arrangements. Frameworks provide a metatheoretical language that can be used to compare theories. They attempt to identify the universal elements that any theory relevant to the same kind of phenomena would need to include. Many differences in surface reality can result from the way these variables combine or interact with one another. Thus, the elements contained in a framework help analysts generate the questions that need to be addressed when they first conduct an analysis.

The development and use of theories enable the analyst to specify which elements of the framework are particularly relevant to certain kinds of questions and to make general working assumptions about these elements. Thus, theories focus on a framework and make specific assumptions that are necessary for an analyst to diagnose a phenomenon, explain its processes, and predict outcomes. Several

theories are usually compatible with any framework. Economic theory, game theory, transaction cost theory, social choice theory, covenantal theory, and theories of public goods and common-pool resources are all compatible with the IAD framework discussed in this chapter. In this chapter, I illustrate the framework primarily with reference to our work on the theory of common-pool resources.

The development and use of models make precise assumptions about a limited set of parameters and variables. Logic, mathematics, game theory, experimentation and simulation, and other means are used to explore systematically the consequences of these assumptions in a limited set of outcomes. Multiple models are compatible with most theories. An effort to understand the strategic structure of the games that irrigators play in differently organized irrigation systems, for example, developed four families of models just to begin to explore the likely consequences of different institutional and physical combinations relevant to understanding how successful farmer organizations arranged for monitoring and sanctioning activities (Weissing and Ostrom 1991). This is one of the models we have developed for the precise analysis of a subpart of the theory of common-pool resources.

For policymakers and scholars interested in issues related to how different governance systems enable individuals to solve problems democratically, the IAD framework helps to organize diagnostic, analytical, and prescriptive capabilities. It also aids in the accumulation of knowledge from empirical studies and in the assessment of past efforts at reforms. Markets and hierarchies are frequently presented as fundamentally different "pure types" of organization. Not only are these types of institutional arrangements perceived to be different, but each is presumed to require its own explanatory theory. Scholars who attempt to explain behavior within markets use microeconomic theory, whereas scholars who attempt to explain behavior within hierarchies use political and sociological theory. Such a view precludes a more general explanatory framework and closely related theories that help analysts make cross-institutional comparisons and evaluations.

Without the capacity to undertake systematic, comparative institutional assessments, recommendations of reform may be based on naive ideas about which kinds of institutions are "good" or "bad" and not on an analysis of performance. One needs a common framework and family of theories to address questions of reforms and transitions. Particular models then help the analyst deduce specific predictions about likely outcomes of highly simplified structures. Models are useful in policy analysis when they are well tailored to the particular problem at hand. Models can be used inappropriately when applied to the study of problematic situations that do not closely fit the assumptions of the model.

THE INSTITUTIONAL ANALYSIS AND DEVELOPMENT FRAMEWORK

As indicated earlier, an institutional framework should identify the major types of structural variables present to some extent in all institutional arrangements,

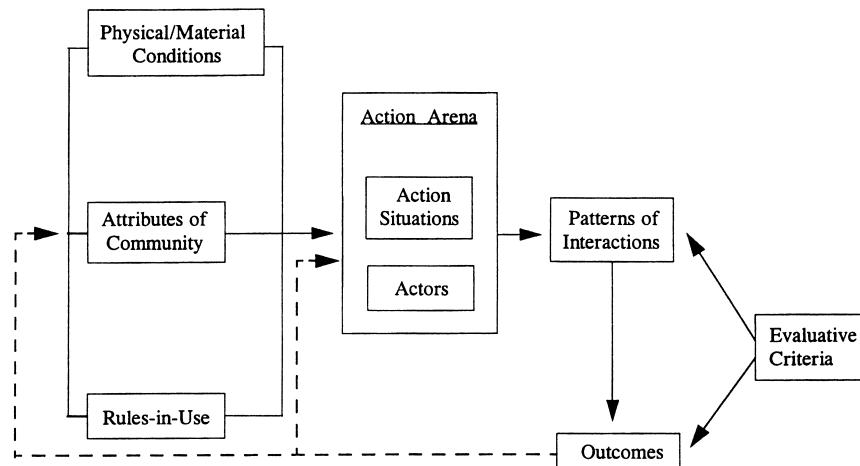


FIGURE 2.1 A Framework for Institutional Analysis
SOURCE: Adapted from E. Ostrom, Gardner, and Walker (1994, p. 37)

but whose values differ from one type of institutional arrangement to another. The IAD framework is a multiter conceptual map (see Figure 2.1). One part of the framework is the identification of an action arena and the resulting patterns of interactions and outcomes and the evaluation of these outcomes (see right half of Figure 2.1). The problem could be at an operational tier where actors interact in light of the incentives they face to generate outcomes directly in the world. Examples of operational problems include:

- the task of designing the incentives of a voluntary environmental action group so as to overcome to some extent the free-rider problem;
- the challenge of organizing local users of a forest to contribute resources to the protection of local watersheds to improve soil quality and water storage; and
- the question of how to invest in irrigation infrastructures so that capital investments enhance, rather than detract from, the organizational capabilities of local farmers.

The problem could also be at a policy (or collective-choice) tier where decision makers repeatedly have to make policy decisions within the constraints of a set of collective-choice rules. The policy decisions then affect the structure of arenas where individuals are making operational decisions and thus directly impacting a physical world. The problem could as well be at a constitutional tier where decisions are made about who is eligible to participate in policymaking and about the rules that will be used to undertake policymaking.

The first step in analyzing a problem is to identify a conceptual unit—called an action arena—that can be utilized to analyze, predict, and explain behavior within institutional arrangements. Action arenas include an action situation and the actors in that situation. An action situation can be characterized by means of seven clusters of variables: (1) participants, (2) positions, (3) outcomes, (4) action-outcome linkages, (5) the control that participants exercise, (6) information, and (7) the costs and benefits assigned to outcomes. An actor (an individual or a corporate actor) includes assumptions about four clusters of variables:

1. 1. the resources that an actor brings to a situation;
2. 2. the valuation actors assign to states of the world and to actions;
3. 3. the way actors acquire, process, retain, and use knowledge contingencies and information; and
4. 4. the processes actors use for selection of particular courses of action.

The term action arena refers to the social space where individuals interact, exchange goods and services, solve problems, dominate one another, or fight (among the many things that individuals do in action arenas). A major proportion of theoretical work stops at this level and takes as givens the variables specifying the situation and the motivational and cognitive structure of an actor. Analysis proceeds toward the prediction of the likely behavior of individuals in such a structure.

An institutional analyst can take two additional steps after making an effort to understand the initial structure of an action arena. One step digs deeper and inquires into the factors that affect the structure of an action arena. From this vantage point, the action arena is viewed as a set of variables dependent upon other factors. These factors affecting the structure of an action arena include three clusters of variables: (1) the rules used by participants to order their relationships, (2) the attributes of states of the world that are acted upon in these arenas, and (3) the structure of the more general community within which any particular arena is placed (see Kiser and Ostrom 1982). The next section of this chapter explicitly examines how shared understandings of rules, states of the world, and nature of the community affect the values of the variables characterizing action arenas. Then one can move outward from action arenas to consider methods for explaining complex structures that link sequential and simultaneous action arenas to one another (see the left side of Figure 2.1).

DIAGNOSIS AND EXPLANATION WITHIN THE FRAME OF AN ACTION ARENA

As mentioned earlier, the term “action arena” refers to a complex conceptual unit containing one set of variables called an action situation and a second set of

variables called an actor. One needs both components—the situation and the actors in the situation—to diagnose, explain, and predict actions and results.

An Action Situation

The term “action situation” is used to refer to an analytic concept that enables an analyst to isolate the immediate structure affecting a process of interest for the purpose of explaining regularities in human actions and results, and potentially to reform them. A common set of variables used to describe the structure of an action situation includes (1) the set of participants, (2) the specific positions to be filled by participants, (3) the set of allowable actions and their linkage to outcomes, (4) the potential outcomes that are linked to individual sequences of actions, (5) the level of control each participant has over choice, (6) the information available to participants about the structure of the action situation, and (7) the costs and benefits—which serve as incentives and deterrents—assigned to actions and outcomes. In addition, whether a situation will occur once, a known finite number of times, or indefinitely affects the strategies of individuals. When one is explaining actions and cumulated results within the framework of an action arena, these variables are the “givens” that one works with to describe the structure of the situation. These are the common elements used in game theory to construct formal game models.

Most operational activities related to natural resources can be conceptualized as involving provision, production, appropriation, and assignment (see E. Ostrom, Gardner, and Walker 1994; E. Ostrom, Schroeder, and Wynne 1993). In an analysis of appropriation problems concerning overharvesting from a common-pool resource situation, for example, answers to the following questions are needed before analysis:

- The set of participants: Who and how many individuals withdraw resource units (e.g., fish, water, fodder) from this resource system?
- The positions: What positions exist (e.g., members of an irrigation association, water distributors-guards, and a chair)?
- The set of allowable actions: Which types of harvesting technologies are used (e.g., are chainsaws used to harvest timber; are there open and closed seasons; do fishers return fish smaller than some limit to the water)?
- The potential outcomes: What geographic region and what events in that region are affected by participants in these positions? What chain of events links actions to outcomes?
- The level of control over choice: Do appropriators take the above actions on their own initiative, or do they confer with others (e.g., before entering the forest to cut fodder, does an appropriator obtain a permit)?

- The information available: How much information do appropriators have about the condition of the resource itself, about other appropriators' cost and benefit functions, and about how their actions cumulate into joint outcomes?
- The costs and benefits of actions and outcomes: How costly are various actions to each type of appropriator, and what kinds of benefits can be achieved as a result of various group outcomes?

The Actor: Theories and Models of the Individual

The actor in a situation can be thought of as a single individual or as a group functioning as a corporate actor. The term "action" refers to those human behaviors to which the acting individual attaches a subjective and instrumental meaning. All analysts of microbehavior use an implicit or explicit theory or model of the actors in situations to derive inferences about the likely behavior of each actor in a situation (and thus about the pattern of joint results that may be produced). The analyst must make assumptions about how and what participants value; what resources, information, and beliefs they have; what their information-processing capabilities are; and what internal mechanisms they use to decide upon strategies.

For many problems, it is useful to accept the classical political economy view that an individual's choice of strategy in any particular situation depends on how he or she perceives and weighs the benefits and costs of various strategies and their likely outcomes (Radnitzky 1987). The most well-established formal model of the individual used in institutional analysis is *Homo economicus* as developed in neoclassical economics and game theory. To use *Homo economicus*, one assumes that actors have complete and well-ordered preferences and complete information, and that they maximize the net value of expected returns to themselves. All of these assumptions are controversial and are being challenged on many fronts. Many institutional analysts tend to use a broader conception of individual actors. Many stress that perceived costs and benefits include the time and resources devoted to establishing and maintaining relationships (Williamson 1979), as well as the value that individuals attach to establishing a reputation for being reliable and trustworthy (Breton and Wintrobe 1982).

Alternatively, one could assume that the individuals who calculate benefits and costs are fallible learners who vary in terms of the number of other persons whose perceived benefits and costs are important to them and in terms of their personal commitment to keeping promises and honoring forms of reciprocity extended to them (E. Ostrom 1998, 2005). Fallible learners can, and often do, make mistakes. Settings differ, however, in whether the institutional incentives involved encourage people to learn from these mistakes. Fallibility and the capacity to learn can thus be viewed as assumptions of a more general theory of the individual. One can then presume that the various institutional arrangements

that individuals use in governing and managing common-pool resources (or other problematic situations) offer them different incentives and opportunities to learn. In some settings, the incentives lead them to repeat the mistakes of the past. In others, the rate of effective learning about how to make a resource sustainable over time is rapid. In all cases, the repertoire of institutional design principles known to individuals also affects their capacity to change their institutions to improve learning and other outcomes when faced with repeated failures.

When fallible, learning individuals interact in frequently repeated and simple situations, it is possible to model them as if they had complete information about the variables relevant to making choices in those situations. In highly competitive environments, we can make the further assumption that the individuals who survive the selective pressure of the environment act as if they are maximizers of a key variable associated with survival in that environment (e.g., profits or fitness) (Alchian 1950; Dosi and Egidi 1987). When individuals face a relatively simple decision situation where institutions generate accurate information about the variables relevant to a particular problem, that problem can be adequately represented as a straightforward, constrained maximization problem.

The most fully developed, explicit theories of individual choice compatible with the IAD framework—game theory and neoclassical economic theory—involve extreme assumptions such as unlimited computational capability and full maximization of net benefits. For some field settings, these theories generate empirically confirmed explanatory and diagnostic results. When analyzing commodity auction markets run repeatedly in a setting where property rights are well defined and enforced at a relatively low cost to buyers and sellers, theories of market behavior and outcome based on complete information and maximization of profits predict outcomes very well. Using these assumptions about individual choice turns out to be a very useful way of doing institutional analysis when the problematic settings closely approximate this type of very constrained and competitive choice.

Many of the situations of interest in understanding common-pool resources, however, are uncertain and complex and lack the selective pressure and information-generating capabilities of a competitive market. Therefore, one can substitute the assumption of bounded rationality—that persons are intendedly rational but only limitedly so—for the assumptions of perfect information and utility maximization used in axiomatic choice theory (see Simon 1965, 1972; Williamson 1985; E. Ostrom, Gardner, and Walker 1994, chap. 9; B. Jones 2001). Information search is costly, and the information-processing capabilities of human beings are limited. Individuals, therefore, often must make choices based on incomplete knowledge of all possible alternatives and their likely outcomes. With incomplete information and imperfect information-processing capabilities, all individuals may make mistakes in choosing strategies designed to realize a set of goals (V. Ostrom 2007a). Over time, however, they can acquire a greater understanding of their situation and adopt strategies that result in higher returns. Reciprocity

may develop, rather than strictly narrow, short-term pursuit of self-interest (Hyden 1990; Oakerson 1993).

Individuals do not always have access to the same information known by others with whom they interact. For example, how much any one individual contributes to a joint undertaking is often difficult for others to judge. When joint outcomes depend on multiple actors contributing inputs that are costly and difficult to measure, incentives exist for individuals to behave opportunistically (Williamson 1975). Opportunism—deceitful behavior intended to improve one's own welfare at the expense of others—may take many forms, from inconsequential, perhaps unconscious shirking to a carefully calculated effort to defraud others with whom one is engaged in ongoing relationships. The opportunism of individuals who may say one thing and do something else further compounds the problem of uncertainty in a given situation. Moreover, the level of opportunistic behavior that may occur in any setting is affected by the norms and institutions used to govern relationships in that setting, as well as by attributes of the decision environment itself.

Predicting Outcomes Within an Action Arena

Depending upon the analytical structure of a situation and the particular assumptions about the actor used, the analyst makes strong or weak inferences about results. In tightly constrained, one-shot action situations under conditions of complete information, where participants are motivated to select particular strategies or chains of actions that jointly lead to stable equilibria, an analyst can frequently make strong inferences and specific predictions about likely patterns of behavior and outcomes.

When there is no limit on the number of appropriators from a common-pool resource or on the amount of harvesting activities they undertake, for example, one can develop a mathematical model of an open-access, common-pool resource (see, for example, E. Ostrom, Gardner, and Walker 1994). When the net benefits of harvesting to each entrant increase for the initial set of resource units sought and decrease thereafter, each appropriator acting independently tends to make individual decisions that jointly yield a deficient (but stable) equilibrium. A model of an open-access, common-pool resource generates a clear prediction of a race to use up the resource, leading to high social costs. Both field research and laboratory experimental research strongly support the predictions of overuse and potential destruction of open-access, common-pool resources when appropriators do not share access to collective-choice arenas in which to change the open-access structure they face (E. Ostrom, Gardner, and Walker 1994).

Many arenas, however, do not generate such unambiguous results. Instead of making completely independent or autonomous decisions, individuals may be embedded in communities where initial norms of fairness and conservation may change the structure of the situation dramatically. Within these situations,

participants may adopt a broader range of strategies. Further, they may change their strategies over time as they learn about the results of past actions. The institutional analyst examining these more open, less-constrained situations makes weaker inferences and predicts patterns of outcomes that are more-or-less likely to result from a particular type of situation. In laboratory experiments, for example, giving subjects in a common-pool resource situation opportunities to communicate generally increases the joint outcomes they achieve (see E. Ostrom, Gardner, and Walker 1994, and citations contained therein). In field settings, one cannot just assume that helping individuals engage in face-to-face discussions in a few meetings will increase the probability of improved outcomes. There are many factors that affect the likelihood of successful long-term governance of resources. In Dietz, Ostrom, and Stern (2003), for example, we present strong evidence for government-owned forests that fail as well as succeed. Similarly, we find private and common-property forests that are severely overharvested as well as ones that are sustainably managed. Instead of the formal ownership that has been the focus of so much policy analyses, we find that agreement about the legitimacy of boundaries and reliable monitoring are far more likely to lead to higher levels of cooperation by users and to better-governed resources.

In field settings, it is hard to tell where one action arena starts and another stops. Life continues in what appears to be a seamless web as individuals move from home to market to work (action situations typically characterized by reciprocity, by exchange, or by team problem solving or command). Further, within arenas, choices of actions within a set of rules as contrasted to choices among future rules are frequently made without a recognition that the level of action has shifted. So, when a "boss" says to an "employee," "How about changing the way we do X?" and the two discuss options and jointly agree upon a better way, they have shifted from taking actions within previously established rules to making decisions about the rules structuring future actions. In other words, in IAD language, they have shifted to a collective-choice arena.

Evaluating Outcomes

In addition to predicting outcomes, the institutional analyst may evaluate the outcomes that are being achieved as well as the likely set of outcomes that could be achieved under alternative institutional arrangements. Evaluative criteria are applied to both the outcomes and the processes of achieving outcomes. Although there are many potential evaluative criteria, let us briefly focus on (1) economic efficiency, (2) equity through fiscal equivalence, (3) redistributional equity, (4) accountability, (5) conformance to general morality, and (6) adaptability.

Economic Efficiency. Economic efficiency is determined by the magnitude of the change in the flow of net benefits associated with an allocation or reallocation

of resources. The concept of efficiency plays a central role in studies estimating the benefits and costs or rates of return to investments, which are often used to determine the economic feasibility or desirability of public policies. When considering alternative institutional arrangements, therefore, it is crucial to consider how revisions in the rules affecting participants will alter behavior and hence the allocation of resources.

Fiscal Equivalence. There are two principal means of assessing equity: (1) on the basis of the equality between individuals' contributions to an effort and the benefits they derive and (2) on the basis of differential abilities to pay. The concept of equity that underlies an exchange economy holds that those who benefit from a service should bear the burden of financing that service. Perceptions of fiscal equivalence or a lack thereof can affect the willingness of individuals to contribute toward the development and maintenance of resource systems.

Redistributional Equity. Policies that redistribute resources to poorer individuals are of considerable importance. Thus, although efficiency would dictate that scarce resources be used where they produce the greatest net benefit, equity goals may temper this objective; the result is the provision of facilities that benefit particularly needy groups. Likewise, redistributional objectives may conflict with the goal of achieving fiscal equivalence.

Accountability. In a democratic polity, officials should be accountable to citizens concerning the development and use of public facilities and natural resources. Concern for accountability need not conflict greatly with efficiency and equity goals. Indeed, achieving efficiency requires that information about the preferences of citizens be available to decision makers, as does achieving accountability. Institutional arrangements that effectively aggregate this information assist in realizing efficiency at the same time that they serve to increase accountability and to promote the achievement of redistributional objectives.

Conformance to General Morality. In addition to accountability, one may wish to evaluate the level of general morality fostered by a particular set of institutional arrangements. Are those who are able to cheat and go undetected able to obtain very high payoffs? Are those who keep promises more likely to be rewarded and advanced in their careers? How do those who repeatedly interact within a set of institutional arrangements learn to relate to one another over the long term?

Adaptability. Finally, unless institutional arrangements are able to respond to ever-changing environments, the sustainability of resources and investments is likely to suffer. Rural areas of developing countries are often faced with natural

disasters and highly localized special circumstances. If an institutional arrangement is too inflexible to cope with these unique conditions, it is unlikely to prosper. For example, if an irrigation system is centrally controlled and allocates only a specific amount of resources to annual and periodic maintenance, it may not be able to meet the special needs associated with a major flood that destroys a section of the canal system.

Trade-offs are often necessary in using performance criteria as a basis for selecting from alternative institutional arrangements. It is particularly difficult to choose between the goals of efficiency and redistributive equity. The trade-off issue arises most explicitly in considerations of alternative methods of funding public projects. Economically efficient pricing of the use of an existing resource or facility should reflect only the incremental maintenance costs and any external or social costs associated with its use. This is the well-known, efficiency-pricing principle that requires that prices equal the marginal costs of usage. The principle is especially problematic in the case of goods with nonsubtractability attributes. In such instances, the marginal cost of another user's utilizing the good is zero; hence, the efficient price is also zero. Zero user prices, however, require that all sources of resource mobilization be tax-based and thereby induce other kinds of perverse incentives and potential inefficiencies. Evaluating how institutional arrangements compare across overall criteria is quite a challenge. Analytical examination of the likely trade-offs between intermediate costs is valuable in attempts to understand comparative institutional performance (see E. Ostrom, Schroeder, and Wynne 1993, chap. 5).

EXPLANATION: VIEWING ACTION ARENAS AS DEPENDENT VARIABLES

Underlying the way analysts conceptualize action arenas are implicit assumptions about the rules individuals use to order their relationships, about attributes of states of the world and their transformations, and about the attributes of the community within which the arena occurs. Some analysts are not interested in the role of these underlying variables and focus only on a particular arena whose structure is given. On the other hand, institutional analysts may be more interested in one factor affecting the structure of arenas than they are interested in others. Sociologists tend to be more interested in how shared value systems affect the ways humans organize their relationships with one another. Environmentalists tend to focus on various ways that physical and biological systems interact and create opportunities or constraints on the situations human beings face. Political scientists tend to focus more on how specific combinations of rules affect incentives. Rules, states of the world, and the nature of the community all jointly affect the types of actions that individuals can take, the benefits and costs of these actions and resulting outcomes, and the likely outcomes achieved.

The Concept of Rules

Rules are shared understandings among those involved that refer to enforced prescriptions about what actions (or states of the world) are required, prohibited, or permitted.⁴ All rules are the result of implicit or explicit efforts to achieve order and predictability among humans by creating classes of persons (positions) that are then required, permitted, or forbidden to take classes of actions in relation to required, permitted, or forbidden states of the world (Crawford and Ostrom 2005; V. Ostrom 1991).

With governance, one needs to ask where the rules that individuals use in action situations originate. In an open and democratic governance system, there are many sources of the rules individuals use in everyday life. It is not considered illegal or improper for individuals to organize themselves and craft their own rules, if the activities they engage in are legal. In addition to the legislation and regulations of a formal central government, there are apt to be laws passed by regional, local, and special governments. Within private firms and voluntary associations, individuals are authorized to adopt many different rules about who is a member of the firm or association, how profits (benefits) are to be shared, and how decisions will be made. Each family constitutes its own rule-making body.

When individuals genuinely participate in the crafting of multiple layers of rules, some of that crafting will occur using pen and paper. Much of it, however, will occur as problem-solving individuals interact to figure out how to do a better job in the future than they have done in the past. Colleagues in a work team are crafting their own rules when they might say to one another, "How about if you do A in the future, and I will do B, and before we ever make a decision about C again, we both discuss it and make a joint decision?" In a democratic society, problem-solving individuals do this all the time. They also participate in less fluid decision-making arrangements, including elections to select legislators.

Thus, when we do a deeper institutional analysis, we attempt first to understand the working rules that individuals use in making decisions. Working rules are the set of rules to which participants would make reference if asked to explain and justify their actions to fellow participants. Although following a rule may become a "social habit," it is possible to make participants consciously aware of the rules they use to order their relationships. Individuals can consciously decide to adopt a different rule and change their behavior to conform to such a decision. Over time, behavior in conformance with a new rule may itself become habitual (see Shimanoff 1980; Toulmin 1974; Harré 1974). The capacity of humans to use complex cognitive systems to order their own behavior at a relatively subconscious level makes it difficult for empirical researchers to ascertain what the working rules for an ongoing action arena may be.

Once we understand the working rules, then, we attempt to understand where those rules come from. In a system governed by a "rule of law," the general legal framework in use will have its source in actions taken in constitutional, legislative,

and administrative settings augmented by decisions taken by individuals in many different particular settings. In other words, the rules-in-form are consistent with the rules-in-use (Sproule-Jones 1993). In a system that is not governed by a “rule of law,” there may be central laws and considerable effort made to enforce them, but individuals attempt to evade rather than obey the law.

Rule-following or conforming actions are not as predictable as biological or physical behavior explained by scientific laws. All rules are formulated in human language. Therefore, rules share the problems of lack of clarity, misunderstanding, and change that typify any language-based phenomenon (V. Ostrom 1997, 1999). Words are always more simple than the phenomenon to which they refer.

The stability of rule-ordered actions depends upon the shared meaning assigned to the words used to formulate a set of rules. If no shared meaning exists when a rule is formulated, confusion will result about what actions are required, permitted, or forbidden. Regularities in actions cannot result if those who must repeatedly interpret the meaning of a rule within action situations arrive at multiple interpretations. “[R]ules are not self-formulating, self-determining, or self-enforcing” (V. Ostrom 1999, p. 383), thus human agents must formulate them, apply them in particular situations, and attempt to enforce performance consistent with them. Even if shared meaning exists at the time of the acceptance of a rule, transformations in technology, in shared norms, and in general circumstances change the events to which rules apply: “Applying language to changing configurations of development increases the ambiguities and threatens the shared criteria of choice with an erosion of their appropriate meaning” (V. Ostrom 1999, p. 383).

What rules are important for institutional analysis? A myriad of specific rules are used in structuring complex action arenas. Scholars have been trapped into endless cataloging of rules unrelated to any method of classification useful for theoretical explanations. But classification is a necessary step in developing a science. Anyone attempting to define a useful typology of rules must be concerned that the classification is more than a method for imposing superficial order onto an extremely large set of seemingly disparate rules. The way we have tackled this problem using the IAD framework is to classify rules according to their impact on the elements of an action situation.

Rule Configurations

A first step toward identifying the working rules can be made, then, by overtly examining how working rules affect each of the variables of an action situation. A set of working rules that affects these variables should constitute the minimal but necessary set of rules needed to offer an explanation of actions and results used by participants to order their relationships within an action arena. Because states of the world and their transformations and the nature of a community also affect the structure of an action situation, working rules alone never provide both a necessary and a sufficient explanation of the structure of an action situation and results.

If this view of the task is adopted, seven types of working rules can be said to affect the structure of an action situation. These are entry and exit rules, position rules, scope rules, authority (or choice) rules, aggregation rules, information rules, and payoff rules. The cumulative effect of these seven types of rules affects the seven elements of an action situation.

Entry and exit rules affect the number of participants, their attributes and resources, whether they can enter freely, and the conditions they face for leaving. Position rules establish positions in the situation. Authority rules assign sets of actions that participants in positions at particular nodes must, may, or may not take. Scope rules delimit the potential outcomes that can be affected and, working backward, the actions linked to specific outcomes. Authority rules, combined with the scientific laws about the relevant states of the world being acted upon, determine the shape of the decision tree, that is, the action-outcome linkages. Aggregation rules affect the level of control that a participant in a position exercises in the selection of an action at a node. Information rules affect the knowledge-contingent information sets of participants. Payoff rules affect the benefits and costs that will be assigned to particular combinations of actions and outcomes, and they establish the incentives and deterrents for action. The set of working rules is a configuration in the sense that the effect of a change in one rule may depend upon the other rules-in-use.

Let us return to the example of conducting an analysis of common-pool resources discussed earlier. Now we will focus on a series of questions that are intended to assist the analyst to get at the rules-in-use that help structure an action situation. Thus, to understand these rules, one would begin to ask questions such as:

- Entry and exit rules: Are the appropriators from this resource limited to local residents; to one group defined by ethnicity, race, caste, gender, or family structure; to those who win a lottery; to those who have obtained a permit; to those who own required assets (such as a fishing berth or land); or, in some other way, to a class of individuals that is bounded? Is a new participant allowed to join a group by some kind of entry fee or initiation? Must an appropriator give up rights to harvest upon migrating to another location?
- Position rules: How does someone move from being just a “member” of a group of appropriators to someone who has a specialized task, such as a water distributor-guard?
- Scope rules: What understandings do these appropriators and others have about the authorized or forbidden geographic or functional domains? Do any maps exist showing who can appropriate from which region? Are there understandings about resource units that are “off-limits” (e.g., the historical rules in some sections of Africa that particular acacia trees could not be cut down even on land owned privately or communally)?

- Authority rules: What understandings do appropriators have about mandatory, authorized, or forbidden harvesting technologies? For fishers, must net size be of a particular grossness? Must forest users use some cutting tools and not others? What choices do various types of monitors have related to the actions they can take?
- Aggregation rules: What understandings exist concerning the rules affecting the choice of harvesting activities? Do certain actions require prior permission from, or agreement of, others?
- Information rules: What information must be held secret, and what information must be made public?
- Payoff rules: How large are the sanctions that can be imposed for breaking any of the rules identified above? How is conformance to rules monitored? Who is responsible for sanctioning nonconformers? How reliably are sanctions imposed? Are any positive rewards offered to appropriators for any actions they can take (e.g., is someone who is an elected official relieved of labor duties)?

The problem for the field researcher is that many rules-in-use are not written down. Nor can the field researcher simply take surveys, asking a random sample of respondents about their rules. Many of the rules-in-use are not even conceptualized by participants as rules. In settings where the rules-in-use have evolved over long periods of time and are understood implicitly by participants, obtaining information about rules-in-use requires spending time at a site and learning how to ask nonthreatening, context-specific questions about rule configurations.⁵

Attributes of States of the World: Physical and Material Conditions

Although a rule configuration affects all of the elements of an action situation, some of the variables of an action situation are also affected by attributes of the physical and material world. What actions are physically possible, what outcomes can be produced, how actions are linked to outcomes, and what is contained in the actors' information sets are affected by the world being acted upon in a situation. The same set of rules may yield entirely different types of action situations depending upon the types of events in the world being acted upon by participants.

The attributes of states of the world and their transformation are explicitly examined when the analyst self-consciously asks a series of questions about how the world being acted upon in a situation affects the outcome, action sets, action-outcome linkages, and information sets in that situation. The relative importance of the rule configuration and states of the world in structuring an action situation varies dramatically across different types of settings. The rule configuration almost totally constitutes some games, like chess, where physical attributes are relatively unimportant. The relative importance of working rules to attributes of the world also varies dramatically within action situations

considered part of the public sector. Rules define and constrain voting behavior inside a legislature more than attributes of the world. Voting can be accomplished by raising hands, by paper ballots, by calling for the ayes and nays, by marching before an official counter, or by installing computer terminals for each legislator, on which votes are registered. However, in regard to organizing communication within a legislature, attributes of the world strongly affect the available options. The principle that only one person can be heard and understood at a time in any one forum strongly affects the capacity of legislators to communicate effectively with one another (see V. Ostrom 2007a, 2007b).

Let us consider several attributes frequently used to distinguish goods and services that are more effectively provided by diverse institutional arrangements. Goods that are generally considered "public goods" yield nonsubtractive benefits that can be enjoyed jointly and simultaneously by many people who are hard to exclude from obtaining these benefits. Common-pool resources yield benefits where beneficiaries are hard to exclude, but each person's use of a resource system subtracts units of that resource from a finite total available for harvesting.

Excludability and the Free-Rider Problem. When it is difficult or costly to exclude beneficiaries from a good once it is produced, it is frequently assumed that such a good must be provided publicly, rather than privately. When the benefits of a good are available to a group, whether or not members of the group contribute to the provision of the good, that good is characterized by problems with excludability. Where exclusion is costly, those wishing to provide a good or service face a potential free-rider or collective-action problem (Olson 1965). Individuals who gain from the maintenance of an irrigation system, for example, may not wish to contribute labor or taxes to maintenance activities, hoping that others will bear the burden. This is not to say that all individuals will free-ride whenever they can. A strong incentive exists, however, to be a free-rider in all situations where potential beneficiaries cannot easily be excluded for failing to contribute to the provision of a good or service.

When it is costly to exclude individuals from enjoying benefits from a common-pool resource or an infrastructure facility, private, profit-seeking entrepreneurs, who must recoup their investments through quid pro quo exchanges, have few incentives to provide such services on their own initiative. Excludability problems can thus lead to the problem of free-riding, which in turn leads to underinvestment in capital and its maintenance.

Public sector provision of common-pool resources or infrastructure facilities raises additional problems in determining preferences and organizing finances. When exclusion is of low cost to the supplier, preferences are revealed as a result of many quid pro quo transactions. Producers learn about preferences through the consumers' willingness to pay for various goods offered for sale. Where exclusion is difficult, designing mechanisms that honestly reflect beneficiaries' preferences and their willingness to pay is complex, regardless of whether the providing

unit is organized in the public or the private sphere. In very small groups, those affected are usually able to discuss their preferences and constraints face-to-face and to reach a rough consensus. In larger groups, decisions about infrastructure are apt to be made through mechanisms such as voting or the delegation of authority to public officials. The extensive literature on voting systems demonstrates how difficult it is to translate individual preferences into collective choices that adequately reflect individual views (Arrow 1951; Shepsle 1979; Buchanan and Tullock 1962).

Another attribute of goods with excludability problems is that, once they are provided, consumers may have no choice whatsoever as to whether they will consume them. An example is the public spraying of insects. If an individual does not want this public service to be provided, there are even stronger incentives not to comply with a general tax levy. Thus, compliance with a broad financing instrument may, in turn, depend upon the legitimacy of the public-choice mechanism used to make provision decisions.

Subtractability of the Flow. Jointly used infrastructure facilities can generate a flow of services entirely subtractable upon consumption by one user; in other instances, consumption by one does not subtract from the flow of services available to others. The withdrawal of a quantity of water from an irrigation canal by one farmer means that there is that much less water for anyone else to use. Most agricultural uses of water are fully subtractive, whereas many other uses of water—such as for power generation or navigation—are not. Most of the water that passes through a turbine to generate power, for instance, can be used again downstream. When the use of a flow of services by one individual subtracts from what is available to others, and when the flow is scarce relative to demand, users will be tempted to obtain as much as they can of the flow for fear that it will not be available later.

Effective rules are required if scarce, fully subtractive service flows are to be allocated productively. Charging prices for subtractive services obviously constitutes one such allocation mechanism. Sometimes, however, it is not feasible to price services. In these instances, some individuals will be able to grab considerably more of the subtractive services than others, thereby leading to noneconomic uses of the flow and high levels of conflict among users.

Allocation rules also affect the incentives of users to maintain a system. Farmers located at the tail end of an irrigation system that lacks effective allocation rules have little motivation to contribute to the maintenance of that system because they only occasionally receive their share of water. Similarly, farmers located at the head of such a system are not motivated to provide maintenance services voluntarily because they will receive disproportionate shares of the water whether or not the system is well maintained (E. Ostrom 1996b).

Consequently, for common-pool resources whose flows are highly subtractive, institutional arrangements related to the allocation of the flow of services are

intimately tied to the sustainability of the resource. It is highly unlikely that one can achieve sustainability without careful attention to the efficiency, fairness, and enforceability of the rules specifying who can appropriate how much of the service flow, at what times and places, and under what conditions. Furthermore, unless responsibilities are linked in a reasonable fashion to benefits obtained, the beneficiaries themselves will resist efforts to insist that they take on responsibilities.

Additional Attributes. In addition to these general attributes of physical and material conditions affecting the incentives of participants, resource systems are also characterized by a diversity of other attributes that affect how rules combine with physical and material conditions to generate positive or negative incentives. Whether resource units are mobile or stationary and whether storage is available somewhere in a system affect the problems that individuals governing and managing common-pool resources face (Schlager, Blomquist, and Tang 1994). The problems of regulating a lobster fishery, for example, are much simpler than those of regulating a salmon fishery. Similarly, allocating water predictably and efficiently is easier to achieve when there is some storage in the system than when it is a run-of-the-river system.

If a natural resource system is renewable, such as many groundwater basins, the relevant time horizon for sustaining use is very long, and achieving appropriate rules may mean the difference between creating a sustainable conjunctive-use system and destroying a groundwater basin. Devising an effective set of rules for regulating the use of an oil pool, on the other hand, involves determining an optimal path for mining a resource. The cost of withdrawing the last units of oil will be much higher if producers have not coordinated their withdrawal patterns, but the lack of a future may produce insufficient incentives to achieve adequate regulation early in the development phase.

The size of a resource system can also have a major impact on the incentives facing participants. The length and slope of a main canal of an irrigation system affect not only the cost of its maintenance but also the strategic bargaining that exists between those at the head and those at the end of an irrigation system (Lam 1998; E. Ostrom 1996b). Increasing the number of participants is associated with increased transaction costs. How steeply the costs rise depends, to a large extent, on the rules-in-use and the heterogeneity of the users.

The productivity, predictability, and patchiness of a resource affect the likelihood that private-property arrangements will be successful and enhance the likelihood that common-property arrangements will be necessary (Netting 1982). Similarly, the resilience of a multispecies ecosystem affects the sensitivity of the system both to the rules used to govern the particular system and to changes in economic or environmental conditions elsewhere (Holling 1994). These additional attributes are slowly being integrated into a body of coherent theory about the impact of physical and material conditions on the structure of

the situations that individuals face and their resulting incentives and behavior. Analysts diagnosing resource problems need to be sensitive to the very large difference among resource settings and the need to tailor rules to diverse combinations of attributes rather than trying to achieve some assumed uniformity across all resources in a particular sector within a country.

Attributes of the Community

A third set of variables that affect the structure of an action arena relates to the community. The attributes of a community that are important in the structure of an action arena include the norms of behavior generally accepted in the community, the level of common understanding that potential participants share about the structure of particular types of action arenas, the extent of homogeneity in the preferences of those living in a community, and the distribution of resources among those affected. The term "culture" is frequently applied to this bundle of variables.

For example, when all appropriators from a common-pool resource share a common set of values and interact with one another in a multiplex set of arrangements, the probabilities of their developing adequate rules and norms to govern resources are much greater (Taylor 1987). The importance of building a reputation for keeping one's word is important in such a community, and the cost of developing monitoring and sanctioning mechanisms is relatively low. If the appropriators from a resource come from many different communities and are distrustful of one another, the task of devising and sustaining effective rules is substantially more difficult.

Whether individuals use a written vernacular language to express their ideas, develop a common understanding, share learning, and explain the foundation of their social order is also a crucial variable of relevance to institutional analysis (V. Ostrom 1997). Without a written vernacular language, individuals face considerably more difficulties in accumulating their own learning in a usable form to transmit from one generation to the next.

LINKING ACTION ARENAS

In addition to analysis that digs deeper into the factors affecting individual action arenas, an important development in institutional analysis is the examination of linked arenas. Whereas the concept of a "single" arena may include large numbers of participants and complex chains of action, most of social reality is composed of multiple arenas linked sequentially or simultaneously. The chapters in this volume that address policy subsystems examine multiple linked action arenas at all three levels of analysis (see Chapter 7 by Sabatier and Weible).

When individuals wish to change the structure of incentives and deterrents faced by participants in socially constructed realities to guide (or control) participants

toward a different pattern of results, they do so by attempting to change the rules participants use to order their interactions within particular types of action arenas. Some interesting and important institutional arrangements for coordinating complex chains of actions among large numbers of actors involve multiple organizations competing with one another according to a set of rules. Markets are the most frequently studied institutional arrangements that achieve coordination by relying primarily on rule-governed competitive relationships among organizations. Rule-governed competition among two or more political parties is considered by many analysts an important requisite for a democratic polity. Less studied, but potentially as important a means for achieving responsiveness and efficiency in producing public goods and services, are arrangements that allow rule-ordered competition among two or more potential producers of public goods and services.

MULTIPLE LEVELS OF ANALYSIS

Besides multiple and nested action arenas at any one level of analysis, nesting of arenas also occurs across several levels of analysis. All rules are nested in another set of rules that define how the first set of rules can be changed. The nesting of rules within rules at several levels is similar to the nesting of computer languages at several levels. What can be done at a higher level will depend on the capabilities and limits of the rules (or the software) at that level and at a deeper level. Whenever one addresses questions about institutional change, as contrasted to action within institutional constraints, it is necessary to recognize the following:

1. Changes in the rules used to order action at one level occur within a currently "fixed" set of rules at a deeper level.
2. Changes in deeper-level rules usually are more difficult and more costly to accomplish; thus, there is an increased stability in the mutual expectations of individuals interacting according to a set of rules.

It is useful to distinguish three levels of rules that cumulatively affect the actions taken and outcomes obtained in any setting (Kiser and Ostrom 1982). Operational rules directly affect day-to-day decisions made by the participants in any setting. Collective-choice rules affect operational activities and results through their effects in determining who is eligible and the specific rules to be used in changing operational rules. Constitutional-choice rules affect operational activities and their effects in determining who is eligible and the rules to be used in crafting the set of collective-choice rules that in turn affect the set of operational rules. There is even a "metaconstitutional" level underlying all the others that is not frequently analyzed. One can think of the linkages among these rules and the related level of analysis as shown in Figure 2.2.

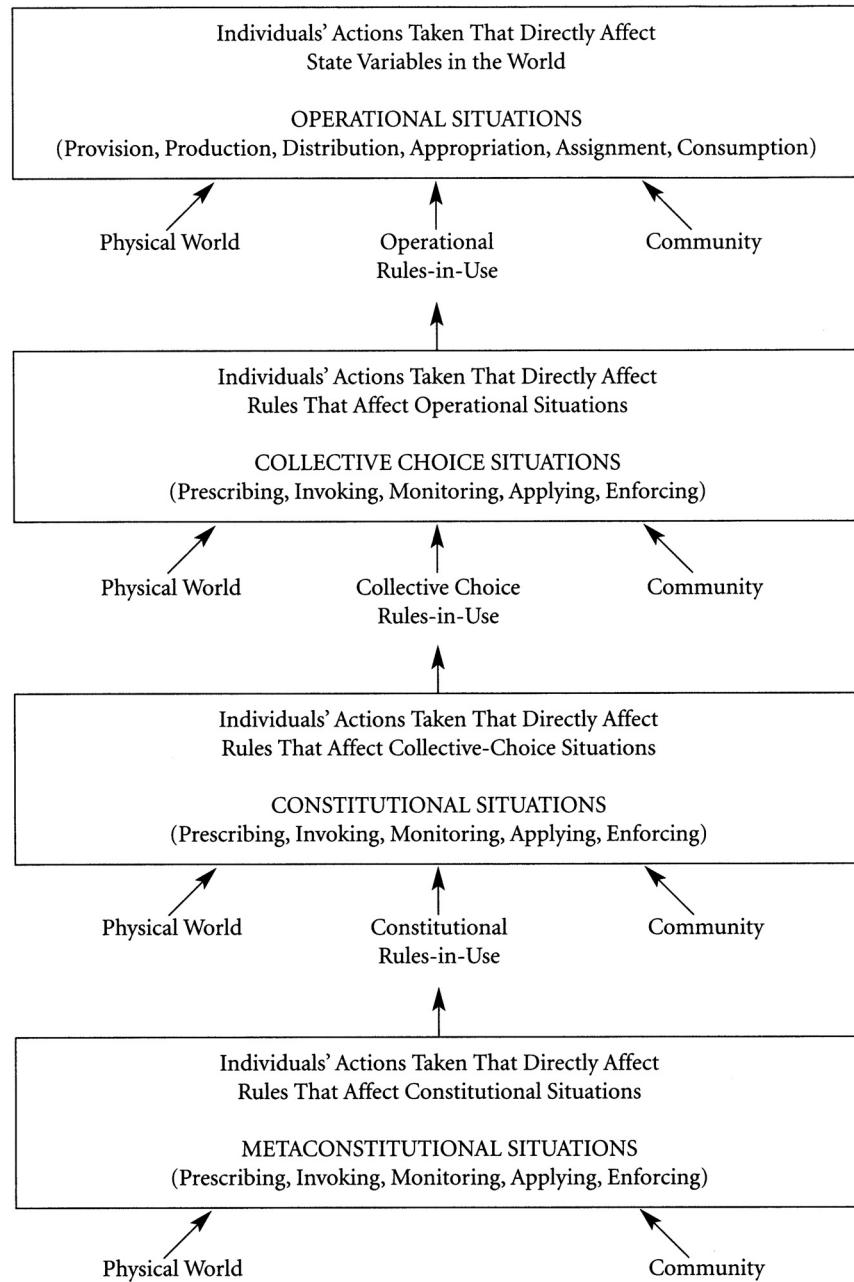


FIGURE 2.2 Levels of Analysis and Outcomes

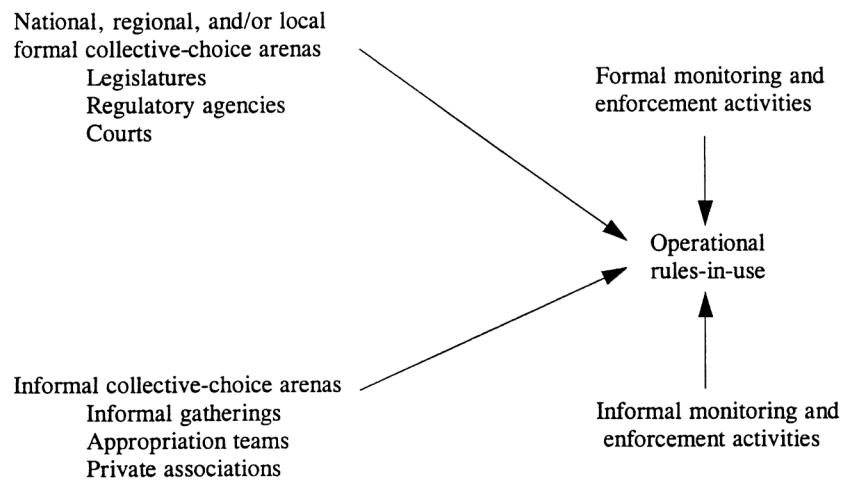


FIGURE 2.3 Relationships of Formal and Informal Collective-Choice Arenas
SOURCE: E. Ostrom (1990, p. 53)

At each level of analysis, there may be one or more arenas in which the types of decisions made at that level will occur. In the collective-choice, constitutional, and metaconstitutional situations, activities involve prescribing, invoking, monitoring, applying, and enforcing rules (Lasswell and Kaplan 1950). The concept of an arena, as described earlier, does not imply a formal setting but can include such formal settings as legislatures and courts. Policymaking (or governance) regarding the rules that will be used to regulate operational-level choices is usually carried out in one or more collective-choice arenas, as shown in Figure 2.3.

USES OF THE IAD FRAMEWORK

The IAD framework is thus a general language about how rules, physical and material conditions, and attributes of community affect the structure of action arenas, the incentives that individuals face, and the resulting outcomes. It has been used extensively in teaching (see, for example, Auer 2006; and Y673 syllabus for Fall 2006 at http://www.indiana.edu/~workshop/seminars/y673_fall_2006_syllabus.pdf). In addition to seminars regularly offered for PhD students and visiting scholars at the Workshop, we are pleased to note the large number of doctoral dissertations written by students at Indiana University and at other universities applying the IAD framework to a broad diversity of topics.⁶

In the early 1970s, when the IAD framework was first being developed, we were trying to understand how the diverse paradigms in political science affected the way we conceptualized both public administration and metropolitan organization (see V. Ostrom and Ostrom 1971; E. Ostrom 1972). Then, for a decade and a

half, we used the nascent framework as a foundation for the conduct of an extensive number of empirical studies of police service delivery in metropolitan areas.

In crafting empirical studies using the IAD framework, a key question has always been the appropriate units and levels of analysis for any particular type of question (see Gregg 1974). For example, when we studied police services, the police department was only one of the units of analysis included in our work. Instead of assuming that the entire department was the appropriate unit, we tried to understand who the actors involved were in diverse service situations, such as immediate response services, homicide investigation, laboratory analysis, training, and communication services. We found different sets of actors involved in each of the service situations. In some, citizens as well as police officers as street-level bureaucrats were key participants. In others, we found participants from many different urban service agencies. We had to examine interorganizational arrangements to understand patterns of interaction and results. Using this perspective, we found highly structured patterns of relationships where others had found only chaos.

The highest levels of police performance existed, for example, in those metropolitan areas where small-scale, immediate-response units worked along with large-scale investigatory, laboratory, and communication units (Parks 1985). Ongoing research by Roger B. Parks in the Indianapolis area is providing strong evidence that many of the patterns we observed in the 1970s and 1980s were still in evidence in the 1990s. Efforts to understand who was involved in producing public safety led us to formulate a theory of coproduction of urban public services (Parks et al. 1982; Percy 1984; Kiser 1984; Whitaker 1980). The theory of coproduction has now been applied to a wider set of phenomena (Lam 1996; Pritchett and Filmer 1997; E. Ostrom 1996b). In light of the extensive empirical research, colleagues were able to achieve a far better understanding of the patterns of metropolitan organization and local government more generally (ACIR 1987, 1988; V. Ostrom, Bish, and Ostrom 1988; Oakerson and Parks 1988; Parks and Oakerson 1989; Stein 1990). More recently, colleagues at other universities have returned to the study of metropolitan organization, and their findings are in large part consistent with our earlier work (Carr and Feiock 2004).

The second broad area in which the IAD framework has played an important organizing role has been the study of common-pool resources. In the mid-1980s, the National Research Council (NRC) organized a research panel on the study of common property (National Research Council 1986). Ronald Oakerson (1992) wrote a framework paper for the panel that was used in the organization of a series of case studies on how diverse people had devised institutional arrangements related to common-pool resources (see also Thomson, Feeny, and Oakerson 1992; E. Ostrom 1992). Oakerson's presentation of the framework has influenced an untold number of studies of common-property regimes in many diverse sectors in all regions of the world. After that conference, we began building a library and bibliography on the commons that continue to this day.⁷ The NRC returned

to the study of common-pool resources to provide an important update of cumulative knowledge with its report on *The Drama of the Commons* in 2002. The intellectual productivity stimulated by the work of the NRC panels has led to the formation of an International Association for the Study of Common Property (IASCP). More than eight hundred scholars attended the biennial meeting of the association held in Oaxaca, Mexico, in August 2004, and a similar number attended the meeting in Bali, Indonesia, in June of 2006.

Colleagues at Indiana University have developed a theory of common-pool resources and a series of theoretical models of appropriation from a common-pool resource and have tested these in the field as well as in the experimental laboratory setting (see E. Ostrom, Gardner, and Walker 1994; E. Ostrom, Walker, and Gardner 1992; Walker and Gardner 1992; Hackett, Schlager, and Walker 1994). Weissing and Ostrom (1991, 1993) developed a series of models focusing on how actions taken by appropriators were monitored. Predictions from these models have been independently tested by other scholars in their own experimental laboratories or by conducting field experiments (Casari and Plott 2003; Cardenas 2000; Falk, Fehr, and Fischbacher 2002). When laboratory subjects are not allowed to communicate, their behavior closely approximates the behavior that is predicted by finitely repeated, noncooperative game theory. When subjects are allowed to communicate or to use sanctioning mechanisms, the behavior observed in the lab is not consistent with these theoretical models but is similar to what we have observed in field settings. It is also important to note that the impact of a system imposed from outside tends to crowd the benefits of a self-imposed set of sanctions (Cardenas, Stranlund, and Willis 2000). We have consequently developed a theory of how boundedly rational individuals use heuristics such as "measured responses" to stabilize agreements achieved in settings where there are no external enforcers to impose rules on participants (E. Ostrom, Gardner, and Walker 1994).

The IAD framework has now been used to develop three major databases related to the study of common-pool resources and diverse property regimes. The first "Common-Pool Resource (CPR) Database" drew on the cases produced for the NRC panel and on the extremely large number of individual case studies that we discovered had been written by historians, sociologists, engineers, political scientists, anthropologists, and students of environmental science (Hess 2006). We used the IAD framework overtly to create a structured database for appropriation and collective-choice arenas. Schlager (1994) and Tang (1991, 1992) studied approximately fifty inshore fisheries and irrigation systems, respectively, and were able to isolate key rules that were positively associated with higher performance levels. In *Governing the Commons* (1990), I was able to draw on the framework and on an analysis of the extensive case studies we were all reading at that time to elucidate some aspects of a theory of common-pool resources. In particular, I examined the key design principles that characterized robust, self-organized institutions for achieving sustainable resource use of very long periods of time as well as for developing an initial theory of institutional change.

The second database focused entirely on irrigation systems and has been used to code more than 175 irrigation systems in Nepal (Benjamin et al. 1994). That database has enabled us to test many propositions growing out of both our own theoretical efforts and those of development scholars more generally (see Adhikari, Pandit, and Schweik 1997; Lam 1998; E. Ostrom, Lam, and Lee 1994; E. Ostrom and Gardner 1993; E. Ostrom 1994, 1996a). We have been able to challenge many of the empirical assumptions used by development scholars who have presumed that farmers are unable to self-organize and engage in costly collective action without the imposition of rules from external authorities (see also Thomson 1992). We have found that farmer-managed irrigation systems in Nepal are able to outperform agency-managed systems in regard to agricultural productivity when we have controlled for factors such as size of group, length of canal, and type of terrain (Lam 1998; Shivakoti and Ostrom 2002). Our findings are supported by research conducted in other countries of Asia (Shivakoti and Ostrom, forthcoming).

The third database is an integral part of the International Forestry Resources and Institutions (IFRI) research program, which is a major, ongoing research program coordinated by the Workshop in Political Theory and Policy Analysis, the Center for the Study of Institutions, Population, and Environmental Change (CIPEC) at Indiana University, and the School of Natural Resources and the Environment at the University of Michigan. This research program is designed to address knowledge and information gaps about how institutions affect the incentives of forest users that result in substantial levels of deforestation in some locations, whereas forest conditions are improving in other locations (E. Ostrom and Wertime 2000). Collaborative research centers have now been established in Bolivia, Colombia, Guatemala, India, Kenya, Mexico, Nepal, Tanzania, Thailand, Uganda, and the United States.

In Uganda, Banana and Gombya-Ssembajjwe (2000) showed in their initial studies that the only forests where deforestation is not extensive are those where local institutional arrangements are viewed by local residents as legitimate and are monitored extensively. In their study of a *comuna* in Ecuador, Gibson and Becker (2000) documented the importance of distance from a forest as it affects the costs that villagers have to pay to actively monitor and enforce rules even when they have full authority to make and enforce their own rules. In India, Agrawal (2000) provided an empirical challenge to the presumption of many scholars that collective action becomes progressively more difficult as the size of the group increases from a very small face-to-face group. He showed that moderate-sized villages are better able to generate the labor needed to protect local forests than are very small villages. Schweik (2000) examined the geographic distribution of *Shorea robusta*, a highly valued species in Nepal. He found that neither the population density of the villages adjacent to the three forests he studied in Nepal nor predictions by optimal foraging theory adequately predicted the spatial distribution of the species. The most robust

explanation for the distribution of this species relates to the institutional rules that allow higher-caste villagers to access their "own" forests as well as forests located near the villages where lower-caste villagers live, but not vice versa.

Many of our initial studies of single sites were brought together in Gibson, McKean, and Ostrom (2000), where we also outlined the research methods used by the IFRI research program. Now, more studies are able to examine multiple sites within a single country (Varughese and Ostrom 2001). Agrawal and Ostrom (2001) compare the decentralization programs in India and Nepal related to forests. Andersson (2004) analyzes the results of decentralization of policies related to forests for local municipalities in Bolivia. He finds that one of the most important factors affecting the success of decentralization is when municipal-level officials are in strong contact with *both* national-level officials (the level above) and user groups and/or NGOs at a local level (the level below). Without recognizing the multiple levels involved in most policy arenas, the important findings of this study would not have been achieved, because one has to have an appropriate framework for asking the right questions of the right people at the right levels.

Recent studies of close to two hundred forests throughout the world have provided some strong evidence on the importance of the users of a forest—rather than an official guard hired by government agencies—undertaking regular monitoring of forest users and sanctioning of those who break accepted rules (Gibson, Williams, and Ostrom 2005). Hayes and Ostrom (2005) strongly challenge the presumption that the best way to bring deforestation under control is to impose national government ownership. In our cross-national comparison of forest vegetation density as measured in seventy-six legally designated, government-owned and protected areas and contrasted to eighty-seven forests that are not so designated, we found no statistical difference between parks and non-parks. The official parks that were best protected were those that authorized the users themselves to make and enforce some of their own rules. Poteete and Ostrom (2004a, 2004b) compare the findings from multiple IFRI studies with a specific focus on the role of heterogeneity and group size on collective action. They find that a simple relationship between these attributes of groups and outcomes is not present across multiple IFRI studies. Rather, institutional arrangements affect whether there is a positive or negative relationship or no relationship at all.

In addition to the aforementioned research programs, the IAD framework has also influenced a variety of other studies, including those developing models of social-choice situations and then subjecting them to empirical tests in experimental laboratories (Herzberg 1986; Wilson and Herzberg 1987; Herzberg and Wilson 1988; Herzberg and Ostrom 1991). Other empirical questions include the study of rural infrastructure in developing countries (E. Ostrom,

Schroeder, and Wynne 1993); privatization processes (S. Walker 1994a, 1994b); development processes more generally (V. Ostrom, Feeny, and Picht 1993; Wunsch and Olowu 1995; Shivakumar 2005); constitutional dynamics in the American federal system (Jillson and Wilson 1994; V. Ostrom 1991, 2006, 2007b), as well as in the Canadian federal system (Sproule-Jones 1993); and the linking of local and global commons (McGinnis and Ostrom, forthcoming; Keohane and Ostrom 1995).

In recent years, the IAD framework has proved useful in analyzing several new domains. Among these new foci are: the study of social-ecological systems (Imperial 1999; Andries, Janssen, and Ostrom 2004); the use of agent-based models of behavior within diverse institutional arrangements (Janssen 2002), including behavior within experimental laboratories (Jager and Janssen 2002); the potential role of bioprospecting in preserving biodiversity (Polski 2005); the study of micro-biological commons (Dedeurwaerdere, forthcoming); the study of the success and failure of cooperatives (E. Jones 2003); the study of fisheries policy (Imperial and Yandle 2005); reviews of the knowledge commons in a digital age (Hess and Ostrom 2003, 2007; Schweik 2005); the development of partnerships among public agencies (Lubell et al. 2002; Heikkila and Gerlak 2005); the role of entrepreneurship in collective action (Kuhnert 2001); and the role of institutional incentives in the relationship of international aid agencies and recipient countries (Gibson, Andersson, et al. 2005).

The IAD framework has thus influenced the analysis of a wide diversity of questions, including how institutions are organized for the provision and production of urban policing and education, primary health care, fertilizer, coffee, roads, irrigation, fisheries, forest resources, and common-pool resources more generally. Empirical work has been carried on in Bangladesh, Bolivia, Brazil, Cameroon, China, Ecuador, Ghana, Guatemala, Hong Kong, India, Indonesia, Ivory Coast, Kenya, Liberia, Madagascar, Mali, Mexico, Nepal, Nigeria, Norway, Poland, Sweden, Taiwan, Uganda, and the United States.

ASSESSING THE VALUE OF THE IAD FRAMEWORK

Obviously those of us who have worked hard to develop the IAD framework over the years and have applied it to many policy questions in both public and private sectors see substantial value in having a common meta-theoretical language for analyzing and testing hypotheses about behavior in diverse situations at multiple levels of analysis. At an earlier time, our work was not well understood or received, and it was somewhat difficult to publish books by Workshop authors with distinguished presses. As shown in Table 2.1, however, the recent publication record of Workshop colleagues has been substantial. Thirty-three books have been published by Workshop authors using institutional analysis since the first publication of Paul Sabatier's *Theories of the Policy Process*.

TABLE 2.1 Books Published Since 1999 by Workshop Colleagues Applying Institutional Analysis*

Author	Topic
1. McGinnis, 1999a, 1999b, 2000	Collected Workshop papers on many topics
2. Oakeron, 1999	Governance of local public economies
3. Prakash, 2000	Corporate responses to environmental challenges
4. Gibson, McKean, and Ostrom, 2000	Applies IAD to comparative study of forests and institutions
5. Costanza et al., 2001	Analyzing ecosystem–human system interactions
6. Bickers and Williams, 2001	Public policy text with integrating institutional analysis
7. Sabetti, 2002	Village politics and the mafia in Sicily
8. Koontz, 2002	Comparative study of national and state resource policies
9. Ayo, 2002	Entrepreneurship and institutions of the Yoruba people of Nigeria
10. Janssen, 2002	Use of agent-based models to study complex ecosystems
11. E. Ostrom and Walker, 2003	Experimental research related to trust and reciprocity
12. Obolonsky, 2003	Institutional analysis of change in Russian political history
13. Acheson, 2003	Institutions for governing Maine's lobster industry
14. Polski, 2003	Banking reform in the United States
15. E. Ostrom and Ahn, 2003	Foundations of social capital
16. Dolšak and Ostrom, 2003	The commons in the new millennium
17. Olowu and Wunsch, 2004	Democratic decentralization in Africa
18. Blomquist, Schlager, and Heikkila, 2004	Water institutions and policy in Arizona, California, and Colorado
19. Ghate, 2004	Community-initiated forest resources management in India
20. Agrawal, 2005	Environmental policy focused on forest institutions in India
21. Allen, 2005	Foundations of Tocqueville's analysis of covenant and democracy
22. Eggertsson, 2005	Limits of institutional reform
23. Gellar, 2005	Tocquevillian analysis of democracy in Senegal
24. Gibson et al., 2005	Political economy of international development assistance
25. Moran and Ostrom, 2005	Human–environment interactions in forested ecosystems
26. E. Ostrom, 2005	Explication of the IAD framework
27. Shivakoti et al., 2005	Asian irrigation in transition
28. Sawyer, 2005	Struggle to gain democratic governance in Liberia
29. Shivakumar, 2005	Potential for creating bottom-up institutions in developing countries
30. Ørebech et al., 2005	Role of customary law related to sustainable development
31. Guha-Khasnabis, Kanbur, and Ostrom, 2006	Relation of formal and informal institutions in developing countries
32. Hess and Ostrom, 2007	Understanding knowledge as a commons
33. Webb and Shivakoti, 2007	Community adaptations under changing forest policy

* Faculty associates at Indiana University and elsewhere, visiting scholars, and workshop doctoral students.

Two recent conferences organized by colleagues at other universities provide substantial evidence regarding the usefulness of the IAD framework and related concepts for scholars in diverse disciplines. Peter J. Boettke of the Mercatus Center at George Mason University organized a conference on "Polycentric Political Economy: Essays in Honor of Elinor and Vincent Ostrom" in November 2004. This was on the occasion of a lifetime achievement award to both Ostroms by the Fund for the Study of Spontaneous Orders. Boettke has now edited a special issue of the *Journal of Economic Behavior and Organization* published in June of 2005. In that journal issue, Boettke and Coyne (2005) wrote a general introduction to the research program of the Workshop in Political Theory and Policy Analysis, and Paul Aligica (2005) extended their analysis to apply more generally to economic development policies. Richard Wagner (2005) then focused in on Vincent Ostrom's work on self-governance, polycentrism, and federalism, and Tom Dietz (2005) examined the Darwinian trope in the drama of the commons. Excellent replies and commentaries were made by Michael McGinnis, Roberta Herzberg, Sujai Shivakumar, Clark Gibson, Mark Sproule-Jones, Amos Sawyer, and Peter Leeson. Scholars wishing to gain an introductory overview of the institutional analysis approach would find this issue of the *Journal of Economic Behavior and Organization* of considerable interest. Those wishing an in-depth presentation of the IAD framework may wish to tackle my recent book (E. Ostrom 2005).

The second conference was organized in January of 2005 on "Institutional Analysis for Environmental Decision-Making" at the Fort Collins Science Center by scholars associated with the U.S. Geological Survey in Fort Collins. In addition to a focus on the IAD framework, the conference organizers also wanted participants to examine the Legal-Institutional Analysis Model (LIAM) and the Advocacy Coalition Framework (ACF). The focus of the conference was on environmental decision making. The organizers hoped "to advance social science theory and methods and improve practical applications for natural resource and environmental managers and planning teams" by exploring the tools of institutional analysis contained in a large number of papers presented at the meeting. It was intended that the results from the meeting would be published as a Scientific Investigations Report of the U.S. Geological Survey. At this time, it appears likely that the IAD framework will continue to provide a foundation for a variety of policy studies and itself be subject to improvement over the years.

NOTES

This chapter was originally based on a paper presented at the 1996 Annual Meeting of the American Political Science Association, San Francisco Hilton and Towers, San Francisco, August 29–September 1, 1996. A still earlier version of part of this paper was presented to the Economic Development Institute of the World Bank, Curriculum Development Workshop, Washington, DC, December 6–7, 1995. The author appreciates the support provided by the National Science Foundation, the Ford Foundation, and the

MacArthur Foundation. Useful comments by Kathryn Firmin-Sellers, Maurice Garnier, Clark Gibson, Vincent Ostrom, Roger Parks, Margaret Polski, Eric Rasmusen, Paul Sabatier, Edella Schlager, James Walker, Tjip Walker, and Xin Zhang on earlier drafts are deeply appreciated. The thoughtful editing of Patty Lezotte and David Price has helped improve the manuscript. Without Charlotte Hess's bibliographic knowledge, I would not even know of some of the recent applications of the IAD framework.

1. Elements of the framework have been used in teaching both graduate and undergraduate courses at Indiana University since the mid-1970s (see historical file of materials on the IAD framework, Workshop Library).

2. In formal game-theoretical analysis, such strategies would be those identified as equilibrium strategies. Shared strategies may, however, take the form of heuristics adopted by most individuals in a society when they find themselves in particular situations.

3. I am more appreciative of these configural relationships because of a very insightful colloquium presentation made by Professor Lloyd Orr, Department of Economics, Indiana University, at the Workshop in Political Theory and Policy Analysis in November 1995.

4. This section draws heavily on E. Ostrom, Gardner, and Walker (1994, pp. 38–41).

5. The International Forestry Resources and Institutions (IFRI) research program has faced this problem by developing research protocols that enable a network of research scholars to gather the "same" information from a sample of forestry sites located in multiple countries of the world. The recording forms can be structured and filled in by the research teams in the evening after in-depth group and individual discussions, but there cannot be a standard way of asking the questions. Anthropologists have looked upon the individuals with whom they talk as "informants," the stance one has to take in any effort to elucidate any information about rules-in-use (see E. Ostrom and Wertime 2000).

6. In E. Ostrom (2005, p. 9), I list fifteen dissertations completed at Indiana University since 1989 that apply the IAD framework. In recent years, graduate students from other universities have sent us copies of their master's or PhD theses to be placed on file in the extensive Workshop Library. These include the following: (1) Maria Baggetta, 2005, master's thesis, Arizona State University; (2) Krishna Gupta, 2001, PhD diss., State University of New York at Stony Brook; (3) Kim Lemky, 2002, PhD diss., University of Waterloo, Canada; (4) Richard McElreath, 2001, PhD diss., University of California, Los Angeles; (5) Bertrand Meinier, 2002, MRM thesis, Simon Fraser University, Canada; (6) Jamey L. Pavey, 2005, PhD diss., University of Tennessee, Knoxville; (7) Nicholas Alan Pinhey, 2003, PhD diss., University of Southern California; (8) Carl Rova, 1999, PhD diss., Lulea University of Technology; and (9) Ruben van Wendel de Joode, 2005, PhD diss., Delft University of Technology, The Netherlands.

7. See Hess (2005). This bibliography incorporates the original volumes *Common Pool Resources and Collective Action: A Bibliography* (Martin 1989/1992; Hess 1996) and the CD-ROM (Hess 1999), which is now available online (open access) and updated yearly.

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3

The Multiple Streams Framework

Structure, Limitations, Prospects

NIKOLAOS ZAHARIADIS

Multiple streams (MS) is a lens, perspective, or framework—I use the terms interchangeably—that explains how policies are made by national governments under conditions of ambiguity. Although it could conceivably be extended to cover the entire process of policy making at various levels of government, it is examined here only in its capacity to explain policy formation (agenda setting and decision making).

A good theory of choice provides answers to three questions (Simon 1983):

- How is attention rationed?
- How and where is the search for alternatives conducted?
- How is selection biased?

MS does this by assuming a temporal order—i.e., the adoption of specific alternatives depends on when policies are made—and by proposing a theory of political manipulation. Three streams are identified as flowing through the policy system: problems, policies, and politics. Each is conceptualized as largely separate from the others, with its own dynamics and rules. At critical points in time, termed policy windows, the streams are coupled by policy entrepreneurs. The combination of all three streams into a single package dramatically enhances the chances that a specific policy will be adopted by policy makers.

The first section provides a panoramic view of the lens by presenting its assumptions and guiding logic. The second section outlines the main structural elements of the framework. The third section discusses the various processes by which

elements come together to provide answers to the puzzle of choice. The fourth section addresses limitations of the lens, and the concluding section proposes an agenda for future research.

A VIEW FROM ABOVE

The basic outline of the multiple streams lens was put forth by Kingdon (1995) in the tradition of Cohen, March, and Olsen's (1972) garbage can model of organizational choice. Collective choice is not merely the derivative of individual efforts aggregated in some fashion, but rather the combined result of structural forces and cognitive and affective processes that are highly context dependent.

Level and Unit of Analysis

MS theorizes at the systemic level, and it incorporates an entire system or a separate decision as the unit of analysis. Much like systems theory, it views choice as the collective output formulated by the push and pull of several factors. The lens is sensitive to the way information affects choice, which is at the heart of earlier theorizing on systems and political communication (e.g., Deutsch 1966; Steinbruner 1974). It shares common ground with chaos theories in being attentive to complexity, in assuming a considerable amount of residual randomness, and in viewing systems as constantly evolving and not necessarily settling into equilibrium (Kingdon 1994, p. 219).

Ambiguity

MS deals with policy making under conditions of ambiguity. Ambiguity refers to "a state of having many ways of thinking about the same circumstances or phenomena" (Feldman 1989, p. 5). These ways may not be reconcilable, creating vagueness, confusion, and stress. It is different from uncertainty, a related concept, in that the latter refers to the inability to accurately predict an event. Ambiguity may be thought of as ambivalence, whereas uncertainty may be referred to as ignorance or imprecision (March 1994, pp. 178–179). While more information may (or may not) reduce uncertainty (Wilson 1989, p. 228), more information does not reduce ambiguity. For example, more information can tell us how AIDS is spread, but it still won't tell us whether AIDS is a health, educational, political, or moral issue.

At the heart of the lens lies a garbage can model of choice (Cohen, March, and Olsen 1972). Choice is conceptualized as a garbage can into which participants, who drift in and out of decisions, dump largely unrelated problems and solutions. No one person controls the process of choice, and fluctuating attendance, opportunities, and attention give the process highly dynamic and interactive qualities.

Kingdon (1995) adapts this model to policy output by the U.S. federal government. Organizations or governments, called organized anarchies, where ambiguity is rampant are characterized by three general properties: fluid participation, problematic preferences, and unclear technology. First, participation in such organizations is fluid. Turnover is high, and participants drift from one decision to the next. Legislators come and go, and bureaucrats, especially high-level civil servants, often move from public service to private practice. Moreover, nongovernmental actors, such as employer associations, trade unions, and consumer groups, exercise significant influence over the form certain decisions will take. Involvement in any one decision varies considerably, and so does the time and effort that participants devote to it.

Second, people often don't know what they want. To say that policy makers almost never make their objectives crystal clear is hardly novel, but it is true that quite often time constraints force politicians to make decisions without having formulated precise preferences. Decisions are made despite, and may even be facilitated by, opaqueness (Sharkansky 2002). This situation stands in stark contrast to that of most businesses, where the ultimate goal is clear: to make a profit. As Cohen, March, and Olsen (1972, p. 1) aptly put it, organized anarchies "can be described better as a collection of ideas than as a coherent structure."

Third, technology—i.e., an organization's processes that turn inputs into products—is unclear. Members of an organized anarchy, such as a university or national government, may be aware of their individual responsibilities, but they exhibit only rudimentary knowledge concerning the way their job fits into the overall mission of the organization. Jurisdictional boundaries are unclear, and turf battles between different departments or agencies are common. Members of the legislature often complain of unaccountable officials, who, in turn, frequently express their frustration with overburdening reporting rules and independent-minded public managers. Past experience often guides their actions, making trial-and-error procedures indispensable learning tools.

Temporal Order

Under such extreme conditions, theories based on rational behavior are of limited utility. Because problems and preferences are not well known, selecting the alternative that yields the most net benefits becomes an impossible task. The problem under conditions of ambiguity is that we don't know what the problem is; its definition is vague and shifting. Distinguishing between relevant and irrelevant information is problematic, which can lead to false and misleading interpretations of facts. Choice becomes less an exercise in solving problems and more an attempt to make sense of a partially comprehensible world (Weick 1979, p. 175). Contradictions and paradoxes appear: state agencies are told to strengthen their oversight functions and at the same time their budgets are slashed. Information is requested and produced but not used in any decisions (Feldman 1989).

Who pays attention to what and when is critical. Time is a unique, irreplaceable resource, whose supply is totally inelastic. As Drucker (1985, p. 26) categorically asserts, "No matter how high the demand, the supply will not go up. There is no price for it and no marginal utility curve for it." Because the primary concern of decision makers—policy makers, business executives, or top civil servants—is to manage time effectively rather than to manage tasks (Drucker 1985; Mackenzie 1997), it is reasonable to pursue a lens that accords significance to time rather than rationality.

Assumptions

Three assumptions guide the framework. It is very important to make them explicit, because as Ruggie (1998, p. 13) perceptively observes, "It's not enough to be right; in the policy sciences, we also want to be right for the right reasons."

Individual Attention or Processing Is Serial, Systemic Attention or Processing Is Parallel. On the one hand, because of biological and cognitive limitations, individuals can only attend to one issue at a time. This means that the number of issues under the active consideration of policy makers is relatively small. In addition, the number of pet projects that any one entrepreneur will push for adoption will be quite limited. On the other hand, division of labor in organizations or governments enables them to attend to many issues simultaneously (March and Simon 1958; Jones 2001). This capacity is of course not infinite, but government can simultaneously put out fires in Colorado, conduct trade negotiations with Greece, investigate mail fraud, and mourn the loss of soldiers killed in action.

Concern for processing capacity in decision making was first introduced by Herbert Simon. What multiple streams shares with Simon's concept of bounded rationality is a focus on attention and search activities, particularly as they relate to the order in which alternatives are considered. Both argue that the sequence in which solutions are considered strongly affects the decision outcome. Where they differ is in the level of theorizing and the problem-solution sequence. Simon theorizes at the individual level and argues that individuals possess only serial processing capacities. Political systems, however, contain many sub-systems that facilitate attention to many issues simultaneously, a phenomenon known as parallel processing. Consequently, attention and search can be quite abrupt and disorderly from the system's point of view (Jones 1994). Whereas Simon in general imposes a certain rational order on the process of policy making, theorizing from the micro to the macro level, multiple streams attempts to uncover rationality, theorizing from the macro to the micro.

Policy Makers Operate under Significant Time Constraints. These people often do not have the luxury of taking their time to make a decision. While this observation does not imply that all decisions are crises, it does suggest that there is a sense of urgency in addressing them. Because many issues vie for attention,

policy makers need to strike while the iron is hot. In effect, time constraints limit the range and number of alternatives to which attention is given.

The Streams Flowing through the System Are Independent. This assumption is related to the first one in that, if systems can do things in parallel, then each element or stream may be conceived as having a life of its own. The stream of problems includes concerns that individuals inside and outside the policy system have. Policies (solutions) are people's products, usually generated in narrow policy communities; they are answers that may be produced not only when needed. Politics is a stream that refers to the broader political discourse within which policy is made. It includes legislators and parties, the national mood or climate of opinion, etc.

The Logic of Political Manipulation

If ambiguity is pervasive and central to politics, manipulation is the effort to control ambiguity. It is a political struggle to create winners and losers, to provide meaning and identity, and to pursue self-interest. A central concept is information, which is not value-neutral (Jones and Baumgartner 2005). Information is strategically manipulated to serve different aims for different elements in the policy process (Hoyt and Garrison 1997). Although manipulation from the point of view of the entrepreneur might involve pursuing self-interest, it serves a different purpose from the point of view of the system. Political manipulation aims primarily to provide meaning, clarification, and identity. In a world replete with ambiguity, the most important aspect of entrepreneurial activity is not to pursue self-interest, but to clarify or create meaning for those policy makers, and others, who have problematic preferences. As March (1997, p. 23) puts it, "decision making may, in many ways, be better conceived as a meaning factory than as an action factory." It is precisely the inability on the part of policy makers to formulate interests that makes entrepreneurs rationalists in the narrow pursuit of their pet proposal but meaning suppliers and identity providers in their coupling efforts.

The logic of political manipulation sets MS apart from other lenses, which employ rationality (rational choice) or persuasion (constructivism). Rationalists assume that individuals are utility-maximizers. They behave opportunistically in that they engage in deceitful behavior to exploit discrepancies in transaction costs during voluntary exchange (Williamson 1985). Although information feedback may be inadequate to allow every individual to devise optimal strategies, proponents of rationality assume that every individual has a very clear and consistent way of arriving at the final decision (Dixit 1996). Constructivists conceive of policy making as driven by persuasion and the social construction of identity and meaning (Schneider and Ingram 1997). It is a process of deliberation between competing groups, each crafting a reasonable argument in ways that aim to persuade the other side(s). As Majone (1989, p. 2) boldly states, "Argumentation

is the key process through which citizens and policy makers arrive at moral judgments and policy choices.”

Despite some similarities, MS differs from both of them in central ways. Unlike rational choice, MS uncovers rather than assumes rationality (Zahariadis 2003). The lens differentiates between two groups of individuals: those who manipulate and those who get manipulated. Policy makers are assumed to have problematic preferences and are subject to manipulation. Policy entrepreneurs are goal-intending manipulators. Whereas rationalists assume that satisficing individuals choose the best option under certain conditions, MS points out that whether a solution is “good enough” is determined politically by policy makers, not entrepreneurs. The problem-solution sequence and the politics of choice are affected by the degree of fragmentation in the politics and policy streams and by the type of policy window.

Political manipulation is more than just persuasion and identity construction. Persuasion involves generating facts to change people’s minds (Nelson, Oxley, and Clawson 1997). MS assumes that policy makers have not made up their minds, so there is little to be changed. In the absence of well-formed goals, more information is not the answer. The key is to understand how information is presented and processed. It’s not enough to merely specify how identities or meaning are constructed, as constructivists are content to do. While identity or meaning construction is a necessary condition, it is not sufficient to explain the fluctuation of policies over time. Policy makers and entrepreneurs use labels and symbols that have specific cognitive referents and emotional impact (Carroll 1985). Employing these elements strategically alters the dynamics of choice by highlighting one dimension of the problem over others. It’s the strategic use of information in combination with institutions and policy windows that changes the context, meaning, and policies over time.

STRUCTURAL FEATURES

The framework contains five structural elements: problems, policies, politics, policy windows, and policy entrepreneurs (Figure 3.1).

Problems

The problem stream consists of various conditions that policy makers and citizens want addressed. Examples are government budget deficits, environmental disasters, inflation, rising medical costs, and so on. Policy makers find out about these conditions through indicators, focusing events, and feedback. Indicators—for example, the cost of a program, infant mortality rates, or highway deaths—may be used to assess the existence and magnitude of a condition, as well as the scope of change. Indicators can be monitored either routinely or through special studies. For example, special studies occasionally seek to estimate the number of

Americans without health insurance. The indicators then can be used “politically” to measure the magnitude of change in the hope of catching official attention (Stone 1988). For example, the British Conservatives used the Public Sector Borrowing Requirement to point attention to large fiscal imbalances and create the requisite conditions for action. Of course, not all conditions become problems. As Kingdon (1995, p.110) categorically asserts, problems contain a “perceptual, interpretive element.” Some conditions come to be defined as problems and consequently receive more attention than others (Rochefort and Cobb 1994). How is this done? A range of values is normally associated with a particular issue. Changes in specific conditions may violate those values and therefore activate interest and attention. People define conditions as problems by letting their values and beliefs guide their decisions, by placing subjects under one category rather than another, by comparing current to past performance, and by comparing conditions in different countries.

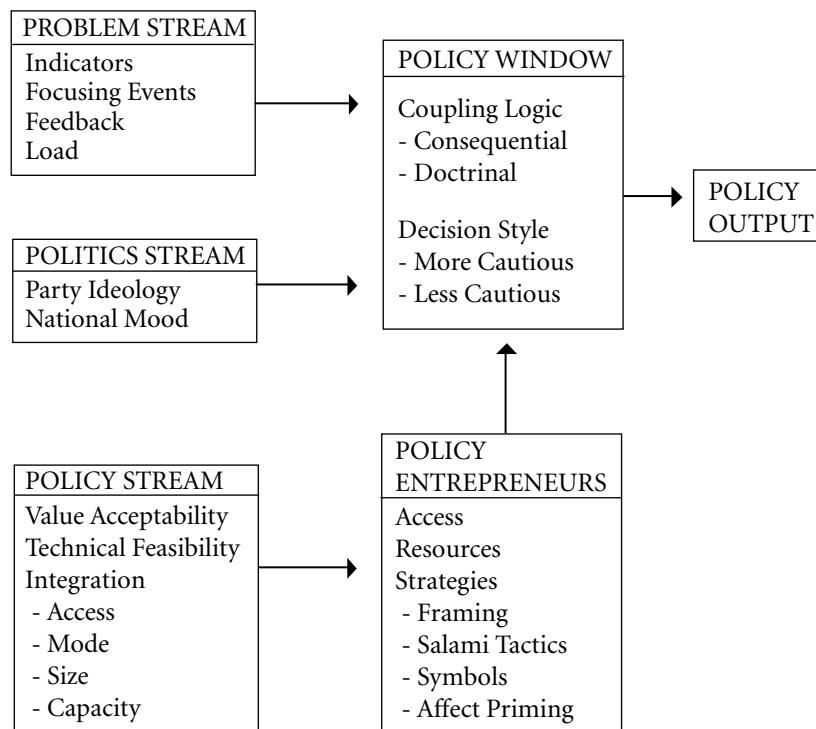


FIGURE 3.1 Diagram of the Multiple Streams Framework
SOURCE: Adapted from Zahariadis (2003)

Focusing events also draw attention to problematic conditions (Birkland 1997). Conditions and focusing events direct attention to specific evaluative dimensions of particular problems; attention is fixed by the media or policy entrepreneurs (Jones 1994). There are several types of focusing events. Zahariadis (1996) offers two examples regarding British Rail: prolonged strikes and two train accidents. Birkland (2004) offers the example of the attacks of 9/11.

Feedback from previous programs is important in that it helps highlight what works and what may not. In this context, successfully implementing a solution in one area may spill over to another, facilitating the adoption of the same solution in a seemingly unrelated area. The cases of spillover of privatization from the area of oil to telecommunications in Britain in the early 1980s and across different countries in later years are good examples.

Attention is to an extent a function of what else preoccupies the minds of policy makers. Problems tend to appear to be more intractable when more of them crowd the agenda. Problem load, that is, the number of difficult problems occupying the attention of policy makers, has a significant negative effect on the efficient utilization of information and a strong positive effect on the ability to predict the issue's place on the agenda (Zahariadis 2003, chap. 6).

Policies

The policy stream includes a "soup" of ideas that compete to win acceptance in policy networks. Ideas are generated by specialists in policy communities (networks that include bureaucrats, congressional staff members, academics, and researchers in think tanks who share a common concern in a single policy area such as health or environmental policy) and are considered in various forums and forms, such as hearings, papers, and conversations. Some ideas survive this initial period basically unchanged, others are combined into new proposals, and still others just disappear. While the number of ideas floating around is quite large, only a few ever receive serious consideration. Selection criteria include technical feasibility and value acceptability. Proposals that are or appear to be difficult to implement have a lower chance of surviving this process. Moreover, proposals that do not conform to the values of policy makers are less likely to be considered for adoption. Proposals to nationalize U.S. railroads, for instance, stand little chance of survival in Washington.

Not all policy networks are created equal. In the original conception of multiple streams, ideas are recombined and rise to the top only incrementally (Kingdon 1995), but Zahariadis and Allen (1995) have shown that this need not be the case. Institutional configurations, or, to put it differently, the level of integration, differ across countries, affecting the mode and tempo of ideas, that is, how ideas germinate in the policy stream and how fast they rise to prominence. Integration refers to linkages among participants and is distinguished by variations in four dimensions: size, mode, capacity, and access. Based on these dimensions, networks can

be classified as more or less integrated. Less integrated networks are larger in size and have a competitive mode, lower administrative capacity, and less restricted access. Conversely, more integrated networks are smaller in size and have a consensual mode, higher capacity, and more restricted access.

Politics

The politics stream consists of three elements: the national mood, pressure-group campaigns, and administrative or legislative turnover. The national mood refers to the notion that a fairly large number of individuals in a given country tend to think along common lines and that the mood swings from time to time. Government officials sensing changes in this mood through, say, monitoring public opinion polls, act to promote certain items on the agenda or, conversely, to dim the prospects of others. In addition, politicians often view the support or opposition of interest groups as indicators of consensus or dissent in the broader political arena. For example, if many interest groups voice their support for deregulation, it is likely that government officials will hasten to include the item on the agenda. In case of conflicting views, which is frequently the case, politicians formulate an image of the balance of support and opposition. The perception that the balance is tilting one way or another directly affects the issue's prominence or obscurity.

In addition to the aforementioned factors, legislative or administrative turnover frequently affects choice in quite dramatic ways. A sudden influx of new members of Congress ideologically predisposed against "big government" is likely to propel the issue of deregulation into high prominence. Moreover, turnover of key personnel in the administration has a significant influence on politics. The advent of a new president or new secretary of defense signifies potential changes. Certain issues, such as proposals to cut the budget, may receive more attention while others, such as comprehensive national health insurance, may simply be pushed into obscurity. For example, the election of Bill Clinton in 1992 elevated national health care on the agenda to an extent not seen since the Nixon administration; his administration's failure to enact substantial policy change then closed the window of opportunity for change. Of the three elements in the political stream, the combination of the national mood and turnover in government exerts the most powerful effect on agendas.

Policy Windows

Choices are made when the three streams are coupled or joined together at critical moments in time. Kingdon (1995, p.165) labels these moments policy windows and defines them as fleeting "opportunit[ies] for advocates of proposals to push their pet solutions, or to push attention to their special problems." Problems arise when policy entrepreneurs use the wrong window to pursue their goals. For

example, “by defining bioterrorism as a security rather than a public health issue, policy entrepreneurs [have recently] squander[ed] the opportunity to institute broad-based reforms that would improve not only the ability to manage a terrorist incident, but also meet other public health needs” (Avery 2004, p. 275).

Windows are opened by compelling problems or by events in the political stream. The crash of an airplane, for example, brings attention to air safety issues (Cobb and Primo 2003). In the political stream, a new administration may be ideologically committed to deregulation. Policy windows are of short duration—although Sharp (1994) finds the opposite to be the case in relation to drug policy—and may be as predictable as annual budget allocations or as unpredictable as earthquakes.

Coupling takes place during open windows when certain policy makers happen to be in power. Their decision style—that is, the amount of information needed before a decision can be made—makes a difference. The effects are frequently interactive and nonlinear (Zahariadis 2003). More cautious styles initially increase and then substantially decrease information dissipation. Difficult problems lead to the production and consumption of a lot of information. Moreover, decision style exercises an independent effect on predictive capability, but the relationship is nonlinear. The more cautious the style, the higher the capability will be to predict the final choice, up to a certain point. The situation then reverses, and predictive capability becomes substantially lower at less cautious levels.

Policy Entrepreneurs

Policy entrepreneurs are individuals or corporate actors who attempt to couple the three streams. They are more than mere advocates of particular solutions; they are power brokers and manipulators of problematic preferences and unclear technology. When windows open, policy entrepreneurs must immediately seize the opportunity to initiate action. Otherwise, the opportunity is lost, and the policy entrepreneurs must wait for the next one to come along. Entrepreneurs must be not only persistent, but also skilled at coupling. They must be able to attach problems to their solutions and find politicians receptive to their ideas. A policy's chances of being adopted dramatically increase when all three streams—problems, policies, and politics—are coupled in a single package.

Not all entrepreneurs are successful at all times. The more successful entrepreneurs are those who have greater access to policy makers. For example, the Adam Smith Institute had greater access to the government during Margaret Thatcher's tenure in power in Britain because its ideology matched hers more closely than did those of other groups. Hence, options put forth by individuals associated with the institute had a greater receptivity among policy makers. Second, entrepreneurs with more resources, i.e., the ability to spend more time, money, and energy to push their proposals, have greater rates of success. Third, entrepreneurs must also employ manipulating strategies to accomplish their goal of coupling the three streams.

PROCESSES

How do the elements combine together to produce choice? MS offers answers to three questions of choice: How is attention rationed? How is search conducted? And how is selection biased? Sabatier (1999, p. 272, note 5) criticizes MS for underspecifying the causal processes driving choice. Although one book chapter cannot possibly rectify the situation, I try to address the issue in the paragraphs below.

Attention

Attention is scarce. Not everything can be attended to at once, especially when too many things are vying for attention. Policy makers need to ration their attention among a limited number of issues. Limitations of this sort pose dilemmas for policy makers. MS argues they are resolved by institutional structure, the type of policy window that opens, and the symbols used to attract attention. Attention to a particular issue is a function of opportunity, bias, formal position in an organization or government, and the number of issues competing for policy maker attention (March and Romelaer 1976).

Institutional structure strongly affects attention. Because policy makers at the top are frequently overwhelmed by the number and complexity of problems they encounter, they have designed institutions to ease overload. The entire system has been organized into sectors, which are frequently called policy communities or sub-systems. They act as filters in that problems and solutions usually first incubate in those communities before they are taken up at the top by national-level politicians (Jones 1994; Baumgartner and Jones 1993). Such structure reduces the number of issues to a manageable few and acts as a first step of sorting out available solutions. However, because there are many policy communities but only one national government, an attention bottleneck is created when too many solutions and problems vie for the attention of a very limited number of decision makers (Jones 1994). MS contends that policy entrepreneurs play a crucial role in capturing the attention of policy makers and manipulating it to their advantage.

What people pay attention to depends partially on the structure of opportunities that evoke such focus. Choice often involves a problem-solution sequence. Rational choice theory, for instance, assumes that policy makers attend to problems first and then develop policies to solve them. Multiple streams amends this argument by suggesting that opportunities ration attention. In cases when the window opens in the problem stream, the process is consequential; that is, solutions are developed in response to specific problems. For example, a flood or a hurricane (problem) points attention to and thus helps to redress possible emergency management deficiencies (solution). If windows open in the politics stream, however, attention is focused on solutions first before problems can be clearly defined. In such cases the process is ideological; that is, policies are made in search of a rationale. What matters more is the solution to be adopted rather

than the problem to be solved. Privatization in the United Kingdom is a good example of a policy in search of a rationale (Zahariadis 1996).

Attention is also influenced by the symbols used to attract it. Symbols have both emotive and cognitive functions. They transmit a simple message and they arouse emotion. As Simon (1983, p. 29) says, political symbols are particularly influential "in large part because [of their] evocative power, the ability to arouse and fix attention." Higher order symbols, that is, symbols which apply to the entire community, have more potency of affect, more uniformity of meaning across individuals, and greater durability of attention. Conditions of ambiguity facilitate political manipulation by way of symbolic politics. The chances of successfully coupling the problem, policy, and politics streams are greater when entrepreneurs attach higher order symbols to their pet proposals. In this way policy entrepreneurs reach more people, evoke a stronger emotional reaction, convey gains and losses, and spend the least effort explaining exactly what their proposal is about. For example, symbols that derive from the core of a nation's identity are more likely to facilitate adoption of the policy associated with them. They are also far more likely to make political discourse emotive than rational. Emotive arousal leads to the adoption of more confrontational policy (Zahariadis 2005a).

In the absence of clear and consistent preferences, the construction of identity becomes an important guide to action. Identity is defined as "a conception of self organized into rules for matching action to situations" (March 1994, p. 61). The construction of self is to an extent externally imposed. We are who we are because the group to which we belong shares a number of rules, norms, and conceptions of common history. Such commonalities are summarized in symbols. When it comes to foreign policy, potent symbols are those which derive from the core of a nation's identity. This helps explain the Greek government's negative reaction to the international recognition of the Former Yugoslav Republic of Macedonia since 1991, or the particular nature of the American response to the events of September 11 (Zahariadis 2005a; Birkland 2004).

Context influences choice. Opportunities help focus attention on a limited number of dimensions of a decision context at any given time. But because problems are multidimensional and ill-structured, shifting from one evaluative dimension to another causes individuals to change their way of thinking about approaching any one problem. Attention is focused and fixed, not because preferences necessarily change, but because different preferences are activated (Jones 1994, p. 77).

Search

The search for solutions and their availability, i.e., their evolution, are heavily influenced by the structure of policy networks within which the search is taking place. Where policy makers search for solutions and how ideas germinate in the "primeval soup," to use Kingdon's metaphor, depends on the degree of integration

of the policy communities (or networks). The gestation period of ideas in the policy stream varies from rapid to gradual. The content ranges from totally new to a minor extension of the old. The typology that emerges from these criteria yields four types: quantum (rapid propulsion of new ideas), emergent (gradual gestation of new ideas), convergent (rapid gestation of old ideas), and gradualist (slow gestation of marginal extensions of existing policies) (Durant and Diehl 1989). Integration encourages one type of evolution rather than another. Less integrated networks are more likely to facilitate a quantum to gradualist evolution of ideas, and more integrated networks are likely to follow an emergent to convergent pattern. This is not to say that other combinations are not possible, but rather that integration renders such evolutionary trajectories more likely. This hypothesis helps explain the ease with which ideas such as privatization have been gaining prominence among specialists in the United Kingdom but have had relative difficulty of doing the same in Germany (Zahariadis and Allen 1995).

Selection

Selection is biased by the manipulating strategies and skills of policy entrepreneurs, who couple problems, policies, and politics into a single package. Strategies include framing, affect priming, "salami tactics," and the use of symbols. Humans are "disproportionate information processors" (Jones 2001, p. 23). They tend to overestimate or ignore new information. Prospect theory and affect priming theory impart the underlying logic of political manipulation by explaining how information is processed.

Problem representation (framing) makes a difference in what people perceive to be losses or gains (Kahneman and Tversky 1979; Levy 1997; Quattrone and Tversky 1988). The presentation of an option as a loss relative to the status quo tends to bias choice. People are generally loss averse in the sense that losses loom larger than gains. To this prediction Jervis (1992) adds that sensitivity is tied to the fact rather than the magnitude of gains or losses. Individuals are also likely to engage in risk-seeking behavior in trying to recoup the loss (Tversky and Kahneman 1981). For example, politicians are more likely to take drastic, risky measures, such as mobilize troops or go to war, if they think such action will reverse perceived losses in prestige or credibility.

Manipulation involves not only language, but also emotion (Etzioni 1992; Sniderman, Brody, and Tetlock 1991). Emotional states drive social processes. As Barbalet (1998, p. 65) boldly claims, "emotion is central to social processes not only in being central to identity and affiliation, in which its role is frequently acknowledged, but also in being the necessary basis of social action and in being responsible for the form action takes." Using affect priming theory (Bower andForgas 2000), Zahariadis (2005a) hypothesizes that the national mood vitally affects a government's behavior. The reasoning is that negative

mood biases appraisals of the current situation by highlighting negative expectations of one's reaction to others. A negative mood is likely to lead to more confrontational policy.

Symbols have affective and cognitive dimensions in that they evoke emotions and also convey relatively clear but highly simplified messages (Elder and Cobb 1983). They focus the debate on specific aspects of an issue and bias selection by raising emotive attachment to certain options and by highlighting the cognitive distance from the status quo. The burning of the flag is a good example. Not only does it raise an emotional response in most people, but it also conveys the message that its desecration constitutes a loss. The implication of this point for multiple streams is that coupling is more likely to be successful if the proposed solution is presented as a large deviation from the status quo and the problem is represented as a loss. If options represent smaller deviations or a preservation of the status quo, coupling success is more likely when problems are framed as gains. Because policy makers are loss averse, policy entrepreneurs will have greater success if they present them with options that recoup perceived losses. Given that prospect theory argues that individuals are also risk seekers when confronted with losses, efforts to couple the three streams will intensify, and hence be more successful, when problems are defined as losses. Using an example from the foreign policy arena, this observation helps explain Greece's persistent, and some might argue blind, policy of supporting the status quo in Yugoslavia during the Bosnian carnage at a significant diplomatic and economic cost (Zahariadis 2005a). The greater the perceived losses, the more stubborn its defense of the "old ways," even when that meant a serious rift with its more powerful European and American allies.

Entrepreneurs who are placed at a high level in government, operate under crisis conditions, and pursue "salami tactics" are more likely to be successful at coupling. A "salami tactic" basically involves the strategic manipulation of sequential decision making. Entrepreneurs are assumed to have a grand design of the desired outcome. However, because they are reasonably certain their desired solution will not be adopted because it's too risky, they cut the process into distinct stages which are presented sequentially to policy makers. Doing so promotes agreement in steps.

But selection is not merely a function of perception. It is also a question of skill. Policy entrepreneurs must be skilled at coupling. Two variables are important: resources and access. Entrepreneurs who are more willing to spend time and energy lobbying politicians and generally pushing their pet projects forward are more likely to experience success. In addition, those with access to the centers of power have an even greater chance of succeeding. Privatization of British Rail, for example, was a better candidate for adoption because it was pushed for by think tanks with very strong connections to the governing party.

Why do policy makers adopt some policies but not others? The MS answer can be summarized as follows: During open policy windows persistent policy

entrepreneurs, who constantly search for solutions to important problems, attempt to couple the three streams. Success is more likely when all three streams are coupled, depending on the type of window that opens and the skills, resources, and strategies of entrepreneurs to focus attention and bias choice.

LIMITATIONS

Despite its wide appeal among policy analysts, MS has also generated a number of detractors. Critics have attacked MS for making a number of unrealistic assumptions and for under-specifying certain processes. As a result, Sabatier (1999, p. 267) reminds us, MS has not generated enough clear, falsifiable hypotheses. I addressed this issue in the two preceding sections. I will confine my comments here to addressing other criticisms.

General Concerns

MS has definitely generated a lot of movement in the policy field, but has there been much movement forward? A colleague once remarked to me that Kingdon's (1995) book has the dubious distinction of generating the highest ratio of citation/subsequent scholarship in political science. Why? MS does appear to be an argument that many scholars quote but few explicitly use. There are two sets of responses to this hyperbole. The first suggests that, despite appearances, there is something fundamentally wrong with the underlying structure and logic. The second set points to more paradigmatic problems.

In a strongly worded article, Bendor, Moe, and Shott (2001) criticize the logic and conclusions of the original garbage can simulation (Cohen, March, and Olsen 1972). Because that conceptualization served as an inspiration for multiple streams, undermining the former adversely affects the latter. I will not summarize Olsen's (2001) response here, but I will address two relevant questions.

First, are the conclusions of MS empirically based rather than assumption-driven? The major criticism of the garbage can model is that the verbal model is different from the computer simulation that accompanied it in the original article. Moreover, the results seem to flow directly out of the assumptions of the model. For example, decisions made by flight or oversight in the garbage can model are attributed directly to the structure of the model; they are not findings, but assumptions (Bendor, Moe, and Shott 2001). MS begins from a different point. It draws inspiration from the work of Cohen and his colleagues (1972), but it also contains structural features of its own. For example, the garbage can model conceives of decisions as being the result of energy fluctuations in each of the streams, more or less fortuitously combined. In contrast, coupling in MS is purposefully done by policy entrepreneurs (Zahariadis 2003). In addition, MS is empirically oriented. Kingdon supplies considerable evidence from the fields of transportation and health in the United States to make his case. Additional

analyses and extensions across different countries and policy domains have been similarly empirically based (Zahariadis 1995, 2003, 2005a; Birkland 1997). Perhaps the critics provide a clue to the answer. Whereas Bendor, Moe, and Shott (2001, p. 186, note 28) sharply criticize Cohen, March, and Olsen for their lack of empirical verification, they praise Kingdon (1995), "whose work is distinguished by careful empiricism tied to theoretical concerns." In other words, whatever the flaws of the garbage can model, MS is theoretically driven and empirically validated.

Second, even if the garbage can model is flawed, should consequent research be abandoned? Bendor and his colleagues lament the opaque logic and confusing language, suggesting that little can be done to "save" the stream of research that flowed from the original article. Having drawn inspiration from garbage can modeling, should MS research be abandoned? The short answer is no. The lens has provided great insight into and understanding of the workings of policy making across different countries and policy fields. For example, MS has succeeded in pointing attention to policy windows acting as catalysts for the adoption of policies, which may often be quite irrelevant to the issue at hand (e.g., Birkland 2004). To be sure, there is a need for greater clarity and specification of hypotheses. But this advice would be well heeded by every policy lens, and it is a far cry from arresting the lens' intellectual progression.

If MS is not structurally flawed, then paradigmatic concerns supply answers to the citation/scholarship question. The problem may not be with the lens itself but with the way diffusion of knowledge works in the field of policy studies. Sabatier rightly asserts that research programs progress only if the original proponents spend time and energy proposing, testing, and revising their work while encouraging others to embrace the lens and help move it forward. It appears that Kingdon did little to encourage other analysts to apply the framework in different settings or foster "a network of scholars involved in a shared research program" (Sabatier 1999, p. 269). To borrow a phrase from Kingdon's (1995) book, the author was not entrepreneurial enough to propagate a research program despite the impact of his work. Moreover, the lens is viewed almost exclusively as an explanation of agenda-setting. While Kingdon used the framework to explain agenda-setting in the United States, subsequent work has shown that the lens can be profitably used to explain the entire process of policy formation. Nevertheless, most analysts continue to view the lens largely as important only in explaining agendas, which has diminished its appeal considerably as a more general explanation of policy making. Finally, MS research has focused almost exclusively on the national level, in contrast to competing policy lenses, such as Sabatier and Jenkins-Smith's (1999) advocacy coalitions and E. Ostrom's (1999) institutional rational choice. Because most policy analysts, at least in the United States, do research at the sub-national level, the lens' utility remains limited. Absent this leap across levels (but see McLendon 2003; Westervelt 2001), it is small wonder that citation rather than productive scholarship remains the norm.

Specific Concerns

Critics also point to more specific problems. I will reflect on two of them.

Are the Streams Really Independent? MS argues that although the streams are not completely independent of one another, they can be viewed as each having a life of its own. Participants drift in and out of decisions, making some choices more likely than others. Problems rise and fall on the government's agenda regardless of whether they are solvable or have been solved. Similarly, people generate solutions, not necessarily because they have identified a particular problem, but because the solution happens to answer a problem that fits their values, beliefs, or material well-being. Changes in the political stream take place whether or not problems facing the nation have changed. Thus, each stream seems to obey its own rules and flows largely independently of the others. The streams interact only during open windows when policy entrepreneurs attach problems to solutions and present them to receptive political audiences.

Critics disagree. Mucciaroni (1992) and Bendor, Moe, and Shott (2001) question the appropriateness of conceptualizing independent streams. The streams can be more fruitfully viewed as interdependent, Mucciaroni maintains, and changes in one stream can trigger or reinforce changes in another, making coupling much less fortuitous and the process more purposive and strategic. For example, the problem of U.S. tax reform was tied to the supply-side tax cuts proposed by conservatives in symbolic and substantive ways long before Reagan's advent to power opened a policy window. Sabatier (1999, p.272, note 5) goes further. He views stream independence solely as a contingent relationship subject to empirical verification. Politics does not necessarily operate at the systemic level, policies are not always developed in policy communities, and solutions are not developed independently of problems. Kingdon (1995, p.228) himself opens the possibility that coupling, i.e., interaction, may take place in the absence of an open window.

Stream independence is a conceptual device. It has the advantage of enabling researchers to uncover rather than assume rationality, i.e., the point that solutions are always developed in response to clearly defined problems. Sometimes policies are in search of a rationale or they solve no problems (Stone 1988; Zahariadis 1996). Edelman (1988) goes as far as to argue that solutions create problems. Consider, for example, the decision in 2003 by the Bush administration to go to war in Iraq. Whereas the initial rationale had to do with what was claimed to be the clear and imminent danger posed by Saddam Hussein's possession of weapons of mass destruction, subsequent rationalizations emphasized connections with terrorists, the liberation of Iraq, or democratization and nation-building. The solution remained the same—depose Saddam—while the problem constantly drifted in search of an anchor. As insiders (such as Paul O'Neill, President Bush's former Secretary of the Treasury, and Richard Clarke, the former counter-terrorism czar) later pointed out, the administration was fixated on Saddam long before the

attack (Suskind 2004; Clarke 2004). The question was, not whether, but when and how to do it.

It is impossible to make the above argument in the absence of stream independence. The key is to specify when policy may be in search of a rationale, but one cannot logically make this statement or explain the process of why this is so unless one differentiates between the development of problems and solutions. Besides, assumptions are simplifications of reality. If many policy analysts readily accept the assumption that people don't have to be rational—they only need act *as if* they are rational—they can also accept the assumption that streams don't have to be independent—they only need flow *as if* they are independent.

Can Hypotheses Generated by MS Be Statistically Tested? Methodological pluralism may be a virtue, but statistical analysis adds weight to a lens' predictions in ways that case studies do not. This is not the place to rehash the old debate of the benefits and drawbacks of quantitative versus qualitative analysis, but it is no secret that most applications of the garbage can stream of research as well as MS have been qualitative case studies. This has led to significant discontent among critics who charge: "many applications of the approach do little more than describe some parts of an organization as garbage cans, offering descriptions—usually ethnographic accounts that emphasize G[arbage] C[an] T[heory]'s central themes" (Bendor, Moe, and Shott 2001, p. 186). Apart from utilizing computer simulations that tighten and formalize the verbal lens in order to draw further implications (Zahariadis 2003), it would be useful to test MS statistically. Can this be done, and if so, how?

Travis and Zahariadis (2002) provide one such test. It is not the only way to test MS, but given the paucity of studies, it serves as a good first effort. The authors adopt a cybernetic version of the model and make two assumptions. First, they drop the notion of entrepreneurs who manipulate the process using cognitive or affective strategies. Second, they explicitly conceptualize inertia built into the model in the form of baseline funding. Examining U.S. foreign aid allocations, they argue foreign aid is the result of interactions between problems, policies, and politics. The model follows an anchor-and-adjust process whereby policy outputs or funding levels are anchored around a specific level, which is subject to periodic adjustments caused by pre-specified factors. Policy makers anchor allocations to the previous year's allocation level, which represents the point of agreement in the foreign aid policy community. Adjustments to the anchor can be made in response to external problems or domestic politics, and they will be made during open policy windows, which are changes in either the problem or the politics stream. Using the idea of negative and positive feedback, the authors view external problems as measured by security concerns, economic activities, and the recipient's needs. Similarly, domestic politics is conceptualized as being measured by control of the executive branch and control of either or both chambers of Congress.

Coupling refers to interactions between all three streams, but Travis and Zahariadis (2002) opt to model only the interactions between problems and policy and between politics and policy for two reasons. First, the anchor-and-adjust conceptualization assumes that no two windows open simultaneously. This implies that adjustments will be made in response to external problems, such as terrorism, while the politics stream remains constant; that is, both Republicans and Democrats view terrorism as a significant problem and are thus likely to react similarly. In this case adding the interaction with the politics stream in the same term is redundant. The same is true in the case of windows opening in the politics stream. Second, a separate interaction between problems and politics is not warranted, because they both represent adjustments. Unless one models their interaction to the anchor, that is, baseline funding, it is impossible to specify to what they are adjusting. The final equation incorporates a series of independent and multiplicative terms to capture the full flavor of the model. The findings are largely consistent with theoretical expectations, illustrating the interactive nature of the foreign aid process and the ability to implement statistical tests of multiple streams.

PROSPECTS

MS examines the process of making policies under conditions of ambiguity. Adapting a garbage can model of choice, John Kingdon and his colleagues have developed a framework that explains policy formation by national governments. Although Kingdon's original application referred only to agenda-setting in a single national setting, it is clear that the scope of the framework is broader than that. It constitutes a lens of the policy process that is useful in single case or in comparative applications across time, countries, issues, and policy domains. In the next paragraphs I draw out implications for theories of the policy process and chart a course for future research.

Implications for Theory

The multiple streams lens is useful in linking the various stages of the policy making process under the umbrella of a single lens. Current studies of policy making often adopt a stage heuristic that divides the process into sub-processes or stages, e.g., agenda setting or implementation. Although it is acknowledged that stage boundaries are arbitrary and stages do not necessarily follow one another (Anderson 2000), there have been few attempts to build a lens that links them into a causal whole. Politics (policy formation) and administration (implementation) are not so rigidly divorced (March 1994, p. 109; Olsen 1988). MS may be able to address this issue with appropriate revisions and qualifications (Skok 1995). For example, Matland (1995) uses ambiguity as one dimension by which he categorizes various implementation studies. Zahariadis (2005b) extends the

argument to the European Union by fleshing out hypotheses regarding ambiguity and systemic performance. For example, he theorizes that higher levels of ambiguity in EU implementation systems dramatically reduce efficiency of delivery but greatly enhance democratic accountability.

MS amends arguments concerning the study of public policy developed explicitly by reference to narrow policy communities (e.g., Hayward 1991). Broad political events are connected to narrow sectoral developments in specific ways. While one does not determine the other, political events outside specific sectors influence the types of solutions that will be examined when windows open. Kingdon (1995) uses the concept of spillover to describe this process. The conceptualization allows for a test of Freeman's (1985) hypothesis that sectoral policies are influenced less by national events or styles and more by the characteristics of the sectors themselves.

The lens addresses the issue of ideas in public policy. While it does not deny the importance of self-interest, it does point to the significance of ideas in two ways. First, solutions are developed, Kingdon argues, not simply on the basis of efficiency or power, but also on the basis of equity. Second, political ideology is a good heuristic in an ambiguous and rapidly changing world (Kingdon 1993, p. 79). It provides meaning to action, cues for floor voting, or serves as an (imprecise) guide to what issues are important. Ideas may be used by politicians not only to define others but to define themselves. People, however, need not be motivated exclusively by ideas. Entrepreneurs whose purpose is to couple the three streams will occasionally bend ideological proclivities in order to take advantage of fleeting opportunities (Zahariadis 1996, 2003). MS is a good way of exploring the impact of ideas without necessarily denying the importance of self-interest.

Finally, MS has important implications for claims concerning the role of individuals and institutions in policy making. MS subscribes to the notion that institutions make things possible, but people make things happen. It points to the importance of policy entrepreneurs and human cognition and emotion as the bases of political manipulation. Moreover, institutions matter (Weaver and Rockman 1993), but their importance is tempered considerably by individuals, timing, and context. Even in the case of smaller (relative to the U.S.) systems with strong executive control and partisan discipline, such as those of the United Kingdom and Greece, there must still be coupling of three independent streams before new policies are adopted.

Recommendations for Further Research

Future research may proceed along the following lines. They are drafted in the form of advice to aid theoretical development.

Probe Applicability under Different Conditions. Why do some decisions tend to become garbage cans? Are there characteristics of issues that make some more

likely candidates than others? Answers will circumscribe even more carefully the limits of MS and lead to a better understanding of the policy making process. While Kingdon (1995) originally implied that the entire process of policy formation constituted a giant receptacle because of characteristics of policy making at the national level, others have explored the importance of specific issue properties. Rommetveit (1976) suggests that prime candidates for garbage cans are those issues that involve changes in normative structures—basic value-priorities in a polity—and those where no active participant dominates the policy process. When a society is in the process of reordering its values, established norms that underlie state-society relations are challenged. As a result, conventional wisdom is questioned, bringing dissenting groups to the forefront of change. The activation of new groups and the wide disagreement as to the relevant values upon which to base the policy decision in turn increase ambiguity and permit the evocation or appearance of new problems and solutions. Such desegmentation of previously established links between windows, problems, and politics complicates the process as new and perhaps unrelated elements are dumped into the can. In this light, the issue of privatization or government reform is a good candidate for applying MS (Brunsson and Olsen 1993; March and Olsen 1983). Other characteristics of issues, Mucciaroni (1992) maintains, alter the behavior of the system in predictable ways. Zahariadis (2003, 2005a) addresses the point, concluding that issue salience, rather than inherent issue characteristics, makes the difference. More empirical work is needed to settle the question.

Probe Applicability in Different Domains. Most of the work utilizing MS has investigated the politics of making domestic policies. Adhering to rigid and obsolete disciplinary boundaries drawn many decades ago, policy analysts systematically neglect the area of foreign policy. Yet Allison (1971) showed that differences between domestic and foreign policy are more imagined than real. Can lenses developed in one context be extended to provide credible explanations in the other?

Zahariadis (2003, chapter 5; 2005a) and Durant and Diehl (1989) address this question. Both find that MS is a good candidate to bridge the divide between domestic and foreign policy. The key problem is to link domestic and external variables (Caporaso 1997). Despite differences regarding the ability of interest groups and corporate actors to access the foreign policy establishment of a particular country, particularly those representing or having extensive ties to foreign interests, domestic concerns and actors assess and filter external threats while pursuing their own domestic pet projects. Ultimately, foreign policy outcomes need to be acceptable to domestic audiences who will ratify the solutions. The external environment plays a role, but externally generated problems or solutions still need to be domestically interpreted. Policy entrepreneurs play a major part in coupling, just like in the case of domestic policies. Small states are not the rule takers the literature views them to be (Hey 2003; Rosenau 1971).

Having started as an explanation of domestic policy in a “disorderly” presidential democracy, MS proves to be useful even in small, parliamentary democracies, such as Greece, and in foreign policy, where participation is less fluid. In contrast to conventional wisdom, theories of domestic policy making such as MS offer solid and theoretically informed explanations of foreign policy.

On a slightly different note, analysis may inquire into the applicability of MS as a lens for explaining policy formation in areas other than educational organizations or whole national governments. On the domestic sub-national level, McLendon (2003) uses the framework to study agenda formation for the decentralization of higher education in three states: Arkansas, Illinois, and Hawaii. Westervelt (2001) uses it to examine agenda setting in Colorado’s K–12 educational policy. On the international level, Gordenker et al. (1995) apply the original garbage can model to the area of international cooperation, which is a broader area than a single organizational environment. Using the AIDS epidemic as a case study, they explore the applicability of the lens in much more fluid areas, called regimes, than had been hitherto discussed. Ambiguity is certainly a fact of life in such cases. Moreover, work on agenda setting in the European Union has shown that the process is highly complex and ambiguous; it is a solid candidate for garbage cans (Peters 1994, p. 20; Richardson 2001). Further inquiry will profitably extend the application to the actual decision making process as well.

Use Multiple Frameworks. Ever since Allison’s (1971) seminal work, policy analysts have become sensitive to the limitations of using single lenses and the value added when exploring policy questions from multiple perspectives. Yet most policy work continues to be conducted using a single lens, as analysts underestimate the value of alternative explanations and overestimate the explanatory power of the lens in use. Like other lenses, MS falls into that category, but recent work has sought to ameliorate the situation.

Investigating Greek foreign policy, Zahariadis (2005a) probes the utility and explanatory power of three lenses, MS, rational internationalism, and two-level games. The author proceeds from the observation made by Allison (1971, p. 251) that perspectives at one level constitute competing explanations of the same event, and at another level they “produce different explanations of quite different occurrences.” If so, Zahariadis asks, what are the limits of MS’s explanatory potential relative to other lenses? The analysis yields some intriguing findings. Conceptualizing the dependent variable as degree of confrontational or cooperative policy, in order to avoid idiosyncratic explanations, the author finds that while MS provides the better overall explanation because it explains more accurately a greater number of occurrences, it systematically under-explains cooperative policy. Although it is hard to discern why this may be the case, two implications flow from the analysis. First, the factors that lead to cooperation are not necessarily the same as those that explain confrontation. Second, synthetic

lenses that integrate variables from different perspectives are of limited utility. A preferable course of action is careful specification of the limitations of each lens and the development of a menu for choosing different perspectives to explain different events (Zahariadis 1998).

Offer Advice on Democratic Governance. How should policy makers cope with an ambiguous world? What lessons does MS have to offer to democratic governance? March and Olsen (1995) outline some implications without, however, paying adequate attention to causal processes. Brunsson (1985) adapts some MS ideas and builds a model of management based on expectations, motivation, and commitment. An earlier study in universities proposes *inter alia* that leaders should persist, because making many proposals means some will pass (Cohen and March 1974). Looking specifically at bureaucratic hierarchies that exhibit garbage can characteristics, Padgett (1980) concludes that managers had better follow a "hands off" approach, provided they tend to personnel policies and structural design. Crecine (1986, p. 116) adds to this strategy the deliberate opening of windows, which alters the context of choice. Some windows are subject to control, or at least influence, such as those associated with budgets, public procurement, or elections in parliamentary democracies. Clearly, much more work is needed to tease out all the implications with adequate precision and logical consistency.

CONCLUSION

Far from being an aberration, ambiguity is a fact of political life. It makes policy making messy, complex, and less comprehensible. Information and bias affect choice. Serendipity plays a big role, diminishing the ability to predict future events. But ambiguity also fosters innovation and diffuses political conflict (Huff 1988; Sharkansky 2002). MS offers a fruitful way to explain how political systems and organizations make sense of an ambiguous world (Weick 2001). The lens supplies the analytical tools to explore how and under what conditions entrepreneurs manipulate the policy process, not only to pursue their own self-interest, but also to provide meaning to policy makers with problematic preferences.

Good lenses of policy choice utilize a lot of information to explain many events. Better lenses explain even more with less. The task is enormous, and further empirical research will determine the lens' success in moving beyond the status of being a good lens and ultimately becoming a better lens of the policy process.

NOTES

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4

Social Construction and Policy Design

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Beginning in the 1980s, policy theorists turned to a policy design approach (Simon 1981; Bobrow and Dryzek 1987; Schneider and Ingram 1988; Weimer and Vining 1989; May 1991) that was initially proposed to address the welter of intervening variables that affect the design, selection, implementation, and evaluation of public policy. By the late 1980s (Schneider and Ingram 1988, 1993; Ingram and Schneider 1990, 1991), the concept of social construction of target populations was introduced. This work posited that public policymakers typically socially construct target populations in positive and negative terms and distribute benefits and burdens so as to reflect and perpetuate these constructions. The incorporation of social construction of target populations as part of policy design helps explain why public policy, which can have such a positive effect on society, sometimes—and often deliberately—fails in its nominal purposes, fails to solve important public problems, perpetuates injustice, fails to support democratic institutions, and produces an unequal citizenship.

The social construction of target population framework has been developed to help explain a number of enduring dilemmas in a democratic polity that other frameworks do not address adequately. The following questions are examples: How is it that, while every citizen is nominally equal before the law, policy design tends to distribute mainly benefits to some people while almost always punishing others? Why is it that some policies are perpetuated and even enlarged, despite their failure to achieve policy goals? How is it that some negatively constructed groups are able to gain a more positive social construction and better treatment by policymakers, whereas others do not? And why and how does it happen that policy designs sometimes depart from the typical reproduction of power and social constructions to introduce change in institutions, power relationships, and the social construction of target groups?

The framework can be used to generate empirical, testable propositions that are intimately connected to important normative concerns about justice, citizenship,

effective problem solving, and democracy. It recognizes that policy design has fundamental social and political consequences, not just on material welfare but also on social reputation and how segments of the population view their relationship with their government. It acknowledges that reputation, image, and social standing are different from the usual notion of political power related to economic and political resources, and that how targets are treated affects images of government and notions of efficacy that encourage or discourage political participation. Social constructions of target groups are important political attributes that often become embedded in political discourse and the elements of policy design. Policymakers respond to and manipulate social constructions in building their political base. Manipulating such images in the political process can and usually does result in radically differential treatment of various target groups, even when alternative designs would have achieved the same putative policy goals. Not all policymaking contexts exhibit this model, however, a point we return to below.

This chapter addresses these and other issues in policy design in terms of the social construction of various political (or “targeted”) groups. We first offer an introduction to the general social construction framework, especially how it is integrated into policy design. We then offer six propositions of its applications and, in particular, discuss what advantages it brings to the study of public policymaking. Finally, we suggest a number of areas in which a social construction framework provides insights toward a theory of public policy.

THE DEVELOPMENT OF A SOCIAL CONSTRUCTION FRAMEWORK

In important ways, social construction can be traced back to Karl Mannheim’s *Ideology and Utopia* (1936), which argued that there was no “single” view of reality, that social science had to be an “interpretative” science to be useful and insightful. According to Gergen (1999), Mannheim held that scientific knowledge was and, indeed, must be a consequence of social relationship. Later reflected in Kuhn’s (1970) seminal concept of “scientific revolutions,” social construction scholars posited that social problems were not neutral or objective phenomena subject to ready examination and resolution. Rather, “problems” are viewed as *interpretations* of conditions that have been subjectively defined as problematic and, as such, demand some type of ameliorative action (see Bacchi 1999, for example). It follows, then, that problem definition is fundamentally a political exercise, that is, labeling a phenomenon to be a “problem” is a political calculus largely based on values (Rochefort and Cobb 1994).¹ Moreover, social construction stands opposed to a “reduction” orientation in the social sciences, one that reduces all social and political conditions to straightforward empirical, objective analyses. Thus, social construction emphasizes the contextual richness of what Maarten Hajer (1993) calls the “policy domain” or what Robert Hoppe (2002) refers to as the critical “cultures of public policy problems.” These pivotal elements, claims

Bent Flyvbjerg (2001), are why the social sciences matter. (also see Dryzek 1993). For our purposes, then, social construction is a world-shaping exercise or, at least, encompasses varying ways in which the “realities” of the world are defined. This would include the images, stereotypes, and assignment of values to objects, people, and events (Stone 1999), that is, the elements that operationalize policy and politics.

More recently, social construction theorists have articulated a synergy combining two strains of literature, one related to interest group theory (pluralism) and the other to institutional analysis. Theodore Lowi (1979) theorized that policy creates politics through distribution of benefits and burdens that generate political activity on the part of groups anticipating policy effects (also Truman 1951). Lowi was primarily interested in the expected or “feed forward” effects of policy on political groups including political parties, interest groups, and other branches of government, along with their subsequent political activity (see Schneider and Ingram 1997 for a history of the Lowi evolution in how policy affects political participation and subsequent policymaking). In contrast, Paul Pierson (1993) theorized about when effects become causes, and identified the “policy feedback” effects of policy designs upon institutions. Pierson relied mainly on historical institutional analysis that showed how policy set in motion forces that built institutionalized relationships. Through processes of “increasing returns,” Pierson and others have proposed that policy will continue on the same path long after external factors would suggest that it should have changed (Pierson 2004; Baumgartner and Jones 1993). Both roots of theory lead to the same starting point: policy affects politics.

We use the term “target group” or “target population” to identify those groups actually chosen to receive benefits and burdens through the various elements of policy design. Policy design includes other elements in addition to the benefits and burdens that affect the target populations. These other elements include putative (or stated) goals to be achieved or problems to be solved, the tools that are intended to change behavior, rules for inclusion or exclusion, rationales that legitimate the policy and provide an internal cause and effect logic connecting means to ends, and the implementation structure. VanDeMark (2006, p. 30) observes that “focusing on target populations redirects attention from organized interest groups and their relationship to policy making to how policy itself exerts influence on those who participate in the policy-making process as well as those who gain and lose as the result of a specific policy.” Indeed, Schneider and Ingram (1997, p. 75) have argued that social constructions may be perceived by the legislature, executives, courts, and, ultimately, the citizenry to be so hegemonic that they are viewed as a “natural” condition and seldom questioned. However, there may also be competing constructions based on different belief systems, experiences, or anticipated consequences. In politics, then, there is a continuing struggle to gain acceptance of particular constructions and their consequences.

The basic thesis of the theory is laid out in Figure 4.1. Historical and contemporary policy designs have a long-term effect in that they (along with other factors in the societal context) identify target populations and allocate rewards and sanctions to them. Targets also are affected through many other aspects of policy design such as rules, tools, rationales, and the causal logic that explains how targets relate to the problem definition or the putative goals of policy. Policy designs shape the experience of target groups and send implicit messages about how important their problems are to government and whether their participation is likely to be effective.

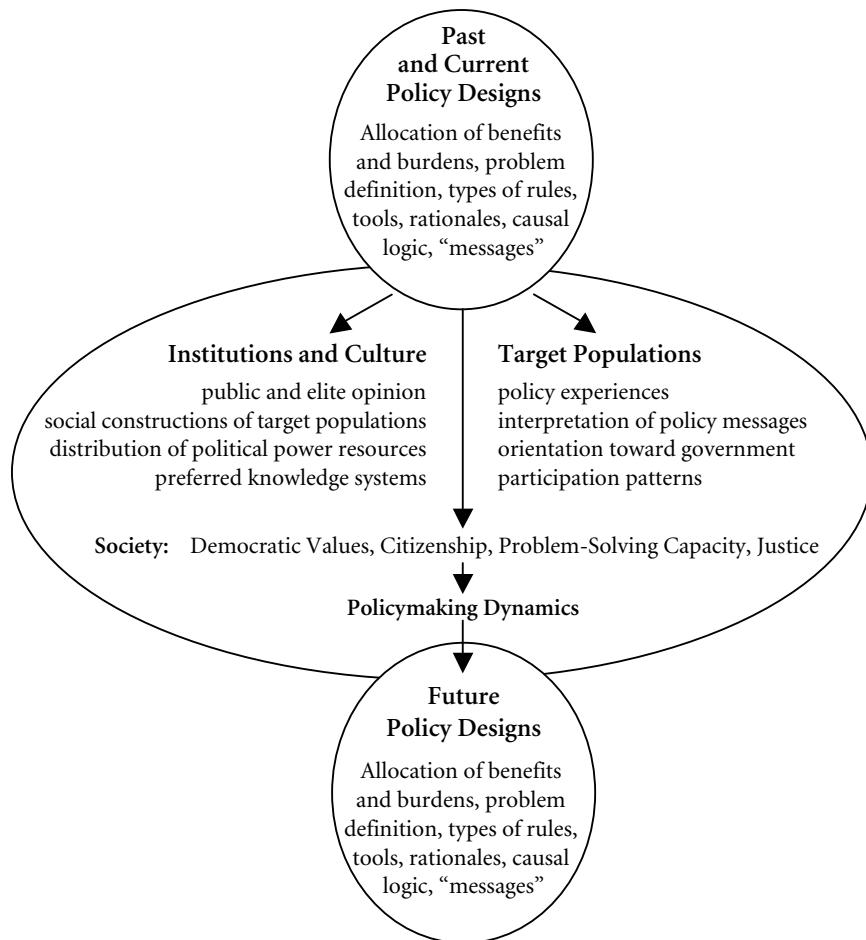


FIGURE 4.1 Social Construction and Policy Design

Policy designs also shape institutions and the broader culture through both the instrumental (resource) effects of policy (such as new rules and new organizations) and the rhetorical/symbolic (interpretive) effects. Thus, policy designs impact public and elite opinion, the social constructions of target groups, the distribution of political power resources, and even the legitimacy of various knowledge systems. Institutions embody one or more knowledge systems, giving preference, for example, to political knowledge, in the sense of the extent of the political capital being created, or to scientific/professional knowledge. Figure 4.1 shows that past and current policy designs have shaped the entire societal context including scope, depth, and authenticity of democracy (Dryzek 1996). Other aspects of the societal context are affected as well, including the vision of citizenship, the problem-solving capacity of the society, and the understanding of justice. Policymaking dynamics incorporate policy entrepreneurs, interest groups, social movements, agencies, and elected officials as well as their staff and others who have a more direct role in determining future policy designs.

Figure 4.1 emphasizes that extant policy designs carry a special weight in the creation of new designs. Differences in social constructions and political power are taken into account during the subsequent policy-designing processes and typically lead to the inclusion of distinctive design elements (especially the distribution of benefits or sanctions) for different types of target populations. Policy designs thus structure the subsequent opportunities for participation, allocate material resources, and send messages that shape the political orientations and participation patterns of the target group as well as other members of the public. In sum, these policy designs usually reproduce the prevailing institutional culture, power relationships, and social constructions, but at times depart from this pattern and introduce change. An appreciation of social construction helps define the conditions that will lead to the reproduction of values or to change.

PROPOSITIONS RELATED TO THE SOCIAL CONSTRUCTION OF TARGET GROUPS

The propositions explored here begin by examining how policy designs socially construct target populations and the consequences of such constructions on the political orientation and participation patterns of target groups. We then turn to the issue of how the political power resources and the social constructions interact to create differences among potential target populations and how policymakers respond to these different constructions in their choice of policy designs. The typology created by the intersection of two continua—one representing political power resources and the other reflecting whether the groups are positively or negatively socially constructed—is useful in understanding not only the choice of policy design elements but also the dynamics of policy continuity and policy change, which we cover in the ensuing set of propositions.

Proposition 1. Policy designs structure opportunities and send varying messages to differently constructed target groups about how government behaves and how they are likely to be treated by government. Both the opportunity structures and the messages impact the political orientations and participation patterns of target populations.

While all citizens are supposed to be equal before the law, there is ample evidence that they receive very different treatment in public policy (Schneider and Ingram 1993, 1997). Very early on in the development of American democracy, Congress began to create categories of citizens as more deserving or “worthy” than others and to direct benefits toward them (Jensen 1996). Entitlements to Revolutionary War veterans were among the first policy designs to carve out some who served in a particular way during a specific time as eligible for pensions. But the initial policies limited the pensions only to those who fought in the Continental Army (not to the militia) and only to those who were indigent. Laura Jensen (2005) elaborates upon how contentious these ideas were with other arguably equally deserving people, including the nurses who tended the wounded during war, women who supported families and farms while men were absent, and widows of fallen soldiers. Some argued that, if the rationale was to honor and reward those who served the nation, then why not all veterans—not just the poor and not just those in the Continental Army, but also the militia? Others countered that, if the purpose was to serve the indigent, then why not all those who were poor? It is notable that the benefits allocated were clearly material—making veterans who fit the criteria relatively better off financially—but they were also honorific and symbolic. This feature of policy design is found across many policy areas, reinforcing the point made in the social construction framework that the same policy often serves both material (resource) and symbolic (interpretive) purposes.

There are many other cases of research revealing the long-term impact of policy designs on group identities, political orientations, and political participation (Table 4.1, which appears later in the paper, summarizes existing empirical studies of how policy designs impact identity, political orientation, and political participation). State constitutions, even after granting voting rights to all white males, continued to deny such rights to minorities and women for many years, and even after granting them, the participation rates remained extremely low. It was not until the early 1960s that the voting turnout of women equaled that of men. Even though the extension of voting rights to the eighteen- to twenty-one-year-old group occurred in time for the 1972 presidential election, their rate of participation in 2004 (44 percent) was far below that of the twenty-five and older group (66 percent).

Most state constitutions still single out categories of people—“idiots,” “insane,” “felons”—and deny voting to them (Schriner 2005). Such treatment by policymakers sends citizens powerful messages about the capacities of such

people, regardless of whether they might in fact be able to exercise the franchise with the requisite amount of political knowledge. Many state laws forbid those convicted of felonies from ever voting in elections, even after they have left prison and have served whatever probationary period was required. Barring former felons from the voting roles disenfranchises large numbers of voters, many of whom are minorities and all of whom have personal knowledge of the workings of the justice system. Currently there are more than two million people behind bars and another four million under some kind of correctional supervision. The political and economic consequences of such mass incarceration and subsequent disenfranchisement are hard to exaggerate or ignore (Uggen and Manza 2002).

Research also supports the finding that groups receiving positive messages and resources from public policy are more politically active than others with similar characteristics. Andrea Campbell (2003) found that senior citizens participate at disproportionately higher rates because Social Security enhances their interest in politics, provides them with financial resources and time to be active, and also forges a positive political identity; in short, it has provided a basis for political mobilization over the years. The policy message is that defending their policy gains through political activity is both rewarded and legitimate. Similarly, Suzanne Mettler (2002) found that the GI Bill had lasting effects on veterans' participation, both because it improved their material circumstances via the greatly enhanced educational opportunities but also because the policy design reinforced a positive social construction and generated (indeed, invited) positive orientations toward government among those who had experiences with the policy itself.

On the opposite, "burdened" side of policy, policy designs for negatively constructed target groups generally result in those group members becoming more marginalized and less active in politics. Joe Soss (1999, 2000) shows that the way welfare benefits are conferred—requiring demeaning means-tests and granting great discretion to caseworkers—actually undermines recipients' feelings of political efficacy and inclination to participate in politics. His work contrasts the participation patterns of AFDC² recipients with those receiving disability insurance through Social Security and finds that the former not only have far lower rates of voting participation but are less likely to vote on the basis of their own interests than are the latter. The message—that welfare recipients are undeserving of the benefits being allocated to them—is embedded in the policy design and reinforced by the discretion available to caseworkers. This portrayal tends to be accepted even by the recipients, who agree that "most" welfare recipients are responsible for their own plight, even as they claim that they personally do not fit that construction. Soss (1999) also shows that welfare mothers who participated in the federal government's Head Start pre-school program with their children have participant rates and orientations toward government basically indistinguishable from others. He attributes this to the "maximum feasible participation" orientation of Head Start and the far more positive construction

of "mothers" in the policy design, when compared with AFDC recipients. In a similar vein, VanDeMark (2006) found that substance-abusing females were more likely to be constructed positively (as dependents) than negatively (as deviant) if they are permitted to exercise some basic elements of democratic participation.

Other studies have shown that universalistic eligibility rules for government-provided stipends yield positive constructions of individuals receiving them, build positive identity, generate trust in government and future support for government intervention, and increase political participation (Esping-Anderson 1990; Kumlin 2004; Kumlin and Rothstein 2005; Schaan 2005; Lawless and Fox 2001; Mettler and Welch 2004).

Scholars have not only shown that policy designs affect individuals' political participation and orientations toward government but that policy designs may inhibit or encourage the mobilization of grassroots organizations. Mara Sidney (2005) demonstrates that the design of the Community Reinvestment Act, which focused on economic development in low-income, inner-city, high-minority population neighborhoods, discouraged mobilization. The legislation specified no role for community groups in enforcement, but then required onerous disclosure of those who chose to participate. In contrast, other policy designs may facilitate participation by providing leadership or points of access. For example, legislation helped facilitate the positive social construction and participation of organic farmers when the certification program for organic agricultural products included a national advisory board (Ingram and Ingram 2006). This board was influential in building the positive image and organizational potential of organic farmers as well as the negative perception of those who profited from genetically modified organisms, irrigated with municipal wastewater, and used irradiation to kill germs.

In summary, policy designs affect participation through rules of participation, messages conveyed to individuals, resources such as money and time, and actual experiences with policy as it is delivered through caseworkers, police, or public agencies. Messages convey who belongs, whose interests are important, what kind of "game" politics is, and whether one has a place at the table. Paul Pierson (2004) distinguishes between two types of policy impacts. Those associated with social constructions are viewed as "interpretive" effects, whereas those enforced with political authority or economic resources are termed "resource" effects (Pierson 1993). In our work, we note that an element of policy design, such as rules for voting or funding for a project, often will have both resource (material) and interpretive effects. Some policy tools may be largely rhetorical or "hortatory" (Schneider and Ingram 1990); that is, they contain claims that the legislation will actually benefit or discipline some target population but specify no enforcement or finances to achieve that end. Even so, it may be a mistake to attempt clear distinctions between effects variously called "material," "instrumental," or "resource" and

those called “symbolic,” “interpretive,” or “rhetorical,” as almost all material impacts carry significant symbolic messages.

Proposition 2. The allocation of benefits and burdens to target groups in public policy depends upon their extent of political power and their positive or negative social construction on the deserving or undeserving axis.

Two dimensions of target population construction are central to this framework (Schneider and Ingram 1993, 1997, 2005a; Ingram and Schneider 1993). The political power of the target group is one dimension indicating the extent of its political resources, such as whether it is large, united, easy to mobilize, wealthy, skilled, well-positioned, focused on issues of concern to it, and accustomed to voting, contacting public officials, and so on. This facet has long been used by political scientists to examine the strength of interest groups and social movements. The second dimension also has been extensively studied in sociology and cultural studies, but usually in isolation from political power and seldom by policy scholars. It refers to the valence or the positive or negative social construction of the group as more-or-less worthy and deserving and as contributing more-or-less to the general welfare. Figure 4.2 portrays a matrix with the degree of a target groups’ political power noted on the vertical axis and the degree of a target groups’ positive or negative image of deservedness on the horizontal axis. Although a group might be classified at any point in the space portrayed in Figure 4.2, it is useful to provide labels for the groups that fall into the four distinct cells that emerge from the matrix.

Advantaged groups have high levels of political power resources and enjoy positive social construction as deserving people important in the political and social hierarchy in general and, more specifically, in social welfare as broadly construed. Such groups probably include, among many others, small business, homeowners, first-responder personnel, often scientists, and the idealized family composed of a married man and woman and a couple of children. Advantaged groups are likely to receive benefits in public policy (such as tax deductions or credits) and to be treated with respect. Not only do such groups tend to get a greater share of benefits than burdens, but burdens often are voluntary rather than mandated or are consistent with professional codes of ethics already in place. Implementation structures typically include agency outreach to potential target populations informing them of benefits for which they may be eligible. Policy designs generally include many forums for participation, where it is easy to lodge complaints (either personally or through appointed personnel or lawyers) and implementing agents can be held accountable. Providing benefits to such advantaged groups generates considerable political capital for policymakers, as the groups themselves will look favorably upon such policy and others will tend to acquiesce because the rationales often connect the policy to

broad-based national interests, even though the policy actually favors specific target populations.

Contender groups have substantial political resources but are negatively regarded as relatively selfish, untrustworthy, and morally suspect. Contender groups have long included major labor unions, although organized labor is losing its once unquestioned political power. Polluting industries, gun manufacturers, “big oil,” Washington lobbyists, and radical conservative activists are generally regarded as politically powerful but undeserving. Contender groups are likely to receive benefits because of their political power, but these benefits are often *sub rosa*, that is, buried in the details of legislation and difficult to identify. Benefits to contenders are hidden because no legislators want to openly do good things for shady people. Contenders may receive burdens in legislation, especially harsh rhetoric about their shortcomings and burdensome regulations, but, because of the political power, such burdens are difficult to enforce and easily challenged during implementation or in court action.

	Positive	Negative
	<u>Advantaged</u>	<u>Contenders</u>
High	Small Business Homeowners The Military Scientists	Big Business CEOs Labor Unions Polluting Industries The Radical Right Environmentalists Gun Manufacturers
Power		Disabled Feminist Movement Gay/Lesbians
Low	Mothers Children The Poor Dependents	Welfare Mothers Homeless Criminals Terrorists <u>Deviants</u>

FIGURE 4.2 Social Construction

Dependents are positively constructed as deserving, at least in terms of sympathy and pity. Widows, orphans, the mentally handicapped, families in poverty, the homeless, most students, and many other categories of unfortunates fit this construction. Lack of political power sharply curtails their receipt of benefits, which tend to be inadequate and limited by rules such as means-testing or by funding shortfalls. Because they do not have a strong role in the creation of national wealth, dependents are viewed as “good” people but considerably less deserving of actual investments than advantaged groups. Aid to these groups, such as loans to college students from low-income families (e.g., federal Pell grants), are the first to experience cuts in times of budget tightening and the last to receive generosity in good times. Dependents lack the political power to effectively demand more. Benefits, when provided, tend to be heavy on rhetoric and low on financing. Policymakers must take care not to appear to be mean-spirited, but they prefer not to expend important resources on dependents unless absolutely necessary. FEMA³ support for many of the devastated citizens of New Orleans after Hurricane Katrina in the fall of 2005 reflects the plight of the dependent class (Dyson 2006).

Deviants lack both political power and positive social constructions and tend to receive a disproportionate share of burdens and sanctions. The number of such groups and their significance as targets of policy are growing. Deviants include suspected and actual terrorists, criminals, illegal immigrants, drug dealers and usually users, computer hackers, sex offenders, spies, leakers of official secrets, and many others. As others have written (see, for example, Nicholsen-Crotty and Meier 2005), deviants make up a kind of permanent underclass in the United States and are blamed for many of the ills of society that might more accurately be attributed to the broader social and economic system. The politics of punishment has come to dominate much of public policy toward deviants, as policymakers stand to gain considerable political capital from punishing those who do not have the power resources or wherewithal to fight back and whom the broader public believes are undeserving of anything better. Deviants have few if any advocacy groups willing to speak on their behalf. Studies of criminal justice policy confirm the difficulty in providing any form of policy that can be interpreted as “beneficial” to persons convicted of crimes, as policymakers have repeatedly used the issue of personal safety as a strategy to gain political capital (Mauer 1999; Schneider 2006).

This four-fold classification is not intended to produce sharp lines between these groups but to be conceptualized as a policy space, with groups (or sub-groups) being slotted appropriately. We recognize that some target populations lack any kind of positive or negative social construction yet do have political power. At times, various groups have contested social constructions, with different actors perceiving their attributes differently. For example, illegal immigrants are portrayed by some as the backbone of the low-paying American economy, whereas others view them as lawbreakers who take the jobs of citizens and exploit the U.S. welfare system (Newton 2005). Still other groups are “in transit,” moving from one position to another. Some of these emergent contenders, such as feminists and gay

rights activists, lose sympathy as they gain political power. Further, policies often subdivide target populations, creaming off the most positively constructed of dependent and deviant groups and affording them better treatment.

Although there is still much empirical work to be done, the studies conducted to date tend to confirm most of the propositions regarding the linkage between target population characteristics and the way target populations are treated in policy design. The allocation of benefits primarily to the advantaged, burdens to deviants, hidden benefits and empty burdens to contenders, and inadequate and demeaning help to dependents is a pattern found across many policy arenas.

Proposition 3. Policy design elements, including tools, rules, rationales, and delivery structures, differ according to the social construction and power of target groups.

The way clients are treated by government during implementation differs significantly depending upon the power and social construction of target groups. The deserving target groups typically are clients of federal programs with professionalized services and specific rules of allocation, whereas the less or undeserving are subject to state or local administrators with greater discretion in the hands of caseworkers (Campbell 2003). Social insurance clients enjoy a depersonalized financial relationship with a federal agency, whereas public assistance recipients have a personal caseworker and confront numerous rules directed to discipline their poor social and economic habits (Soss 2005; Schram 1995). Social welfare legislation sometimes deprives the disadvantaged of all but symbols. Chanley and Alozie (2001) found that primary benefits for battered women in the 1996 welfare reform were rhetorical and contained no provisions that actually could help this group. In her book on the emergence of the welfare state during the New Deal, Suzanne Mettler (1998) explains the inadequacy of the aid provided to women and children given their social construction as dependents. Most subsidy programs for advantaged groups (such as Social Security for elderly populations) are universalistic, whereas most of those for dependents are particularistic or at least severely restricted through underfunding (Soss 1999; Chanley 2005; Campbell 2003; Kumlin 2004).

Suzanne Mettler's (2002) study of the policy designs through which GI educational benefits were conferred demonstrated that many elements of the policy reinforced the message that this group was especially deserving. Her study also showed that beneficial policy was mainly directed toward particular target groups who were portrayed as deserving of government assistance because of their service to the nation. As an advantaged target group, veterans not only received generous educational support but also were served by a Veterans Administration that delivered benefits free from onerous qualifying tests and intrusive monitoring.

Target populations are often subdivided in policy design so as to direct benefits to the most powerful and positively constructed of the subgroups. Mara Sidney's

(2003) analysis of fair housing legislation shows how policymakers subdivided target populations by separating the “black middle class” from “black urban rioters” to justify providing benefits for the former. Similar patterns have been found in the evolution of juvenile justice policy, as policymakers first divided juveniles from adults so that punishment could be inflicted on the latter but not the former, and later divided juveniles into “status offenders” and “delinquents” to justify different policy designs for these groups (Ingram and Schneider 1995). Kyle’s (2006) historical analysis of homelessness demonstrates that policymakers since the ninth century have created subgroups of the “deserving” and “undeserving” homeless, with more positive policy limited to the former.

Policy designs for so-called “deadbeat dads” who fail to make support payments to their former spouses for dependent children differ depending on whether the children are supported by welfare (Crowley and Watson 2005), which is to say, how their condition is socially constructed. For fathers whose children are on welfare, all money collected goes back to state coffers to reimburse taxpayers, whereas for those not on welfare, paternal support money goes directly to their families. For fathers with children on welfare, states may seek back child support for years, or even back to the birth of the child, while other fathers are liable only for arrears back to the child support filing. Clearly the policy design for fathers whose children are on welfare is punitive, punishing them for having children without providing the means of supporting them.

Research also has supported the contention that the rationales found in policy design link the choice of policy tools to the social construction of the target population (Schneider and Ingram 1990). Schroedel and Jordan (1998, p. 120), for example, found that, when the U.S. Senate proposed to confer benefits on contender groups in its AIDS policy, the accompanying rationales avoided all explicit mention of homosexuality. In a study of drinking and driving policy, Houston and Richardson (2004) found that the problem definitions focused heavily on how the target groups were socially constructed. They identified four different social constructions: “killer drunks,” “impaired drivers,” a public health construction of alcohol abuse as a disease, and a civil libertarian construction that focused more on occasional “irresponsible”—but not criminal—behavior. The policy positions closely reflected the social constructions and assumed predictable behavioral patterns.

The close linking of policy tools to rationales that focus on positive and negative social constructions has implications for the effectiveness of public policy. Houston and Richardson (2004), for example, conclude that the insertion of negative social constructions into the drinking and driving debate results in policy that will have the least possible effect on the problem to be solved. Mara Sidney (2005) attributes the weakness of fair housing legislation’s impact at least partly to the policy designs that were constrained and shaped by the mixed social construction of African American homeowners. Efforts to provide health services to prisoner inmates with HIV/AIDS produced extensive problems during the implementation

process, as the design seemed based more on the construction of the target group than the need or fiscal capacity of the state (Nicholson-Crotty and Nicholson-Crotty 2004). And Nancy VanDeMark (2006) found that existing punitive (as opposed to rehabilitative) measures directed against substance-abusing women were counterproductive in terms of the women's ability to recover from drug dependence.

It is important to note that the social construction of target groups along the deserving to undeserving dimension is not characteristic of all policymaking contexts. Schneider and Ingram (1997) also examine professionalized institutional contexts where science and expertise dominate issue framing and policy design. In such contexts, policy design is driven not by power or images but by instrumental reasoning and bureaucratic interests. In other issue contexts, the policy process and design may respond only to power and allocate benefits in the distributive manner expected by pluralists. In still other contexts examined by inclusive governance scholars, (see Feldman and Khademian 2004, 2005), policymaking and design may be far more inclusive, collaborative, and consistent with principles of discursive democracy (deLeon 1997; Fischer 2003).

To summarize, considerable evidence supports the contention that there are distinctive differences in policy designs for advantaged, contender, dependent, and deviant target groups, with advantaged being treated far better than the others. Treatment differences have been found in the distribution of benefits and punishments, positive versus negative rationales, universalistic eligibility rules rather than particularistic rules, professionalized administrative delivery systems with clear rules rather than highly discretionary ones, and material benefits or punishments rather than mainly rhetorical ones. Additionally, some research suggests that, when policy tools are selected on the basis of social constructions, the resulting policy designs are more difficult to implement and less effective than they would otherwise be.

Proposition 4. Policymakers, especially elected politicians, respond to, perpetuate, and help create social constructions of target groups in anticipation of public approval or approbation.

Policy designs become institutionalized over time, and as policy consequences "feed back" (or forward) to discourage the political participation of negatively constructed groups and encourage the participation of positively constructed groups, policy designs come to exert a powerful reinforcement of social constructions, prevailing power relationships, and institutional cultures. Elected leaders respond to policy just as do other policy actors and strengthen prevailing images. They also respond to the incentives to provide advantaged groups with benefits, as suggested by public choice theory (Buchanan 2001), because these groups are regarded as deserving and are well organized politically. Furthermore, the deserving construction tends to insulate elected leaders from opposition to the policy

allocation. Similarly, they typically either ignore negatively constructed, powerless groups who are unable to challenge their own situation and unlikely to garner sympathy from the broader public, or they actually inflict punishment and discipline on them under the guise of "getting tough."

Political science and public choice scholars converge on the argument that elected politicians want to win re-election, and re-election concerns dominate their decisions to sponsor and support legislation. Elected leaders respond to pressures from well-organized interests, but they also anticipate the electoral consequences of taking value positions at odds with prevailing values (Arnold 1990). Legislators do not want to get caught doing things very favorable to groups easily constructed as deviants or, in many cases, contenders. They are anxious to be seen as burdening deviant groups because they believe the voters will reward them for punishing negatively constructed groups. Consequently, legislative leaders as well as presidents and governors are expected to concentrate their activities in the diagonal cells of the typology, conferring benefits on the advantaged and punishment on the deviant, where rewards, especially in terms of re-election, are likely to be greatest.

In previous work, Schneider and Ingram (1993, 1997, 2005a, 2005b) and Ingram and Schneider (1993, 1995, 2005, 2006) have noted that social constructions emanate from a variety of sources and that policy designs are only one of many influences that create and perpetuate stigma and stereotyping. Many sociological, psychological, and anthropological theories highlight a social process called *maximizing the difference*, through which people attempt to distinguish their group from others, whether or not there is personal gain (Tajfel 1970; Gilovich 1993). People tend to exaggerate the positive and negative traits of groups and create myths and rationales that justify the domination of some groups over others. In time, these myths become inculcated in the culture and embodied in policies so that their authenticity is unquestioned, and they are accepted as fact. At the same time, the stereotypes and images legitimated in policy may provide a target and rallying point for protest. Anthony Marx (1998) argues that official racial prejudice against blacks in South Africa and the United States was easier to overturn than similar unofficial prejudices in Brazil, because law and policy provided an opportunity structure to openly challenge discriminatory public policies within the political process. Such studies point to the importance of policy debates as focal arenas for contesting social constructions.

Just as elected leaders depend upon partisanship and ideology to build support and opposition for legislative proposals, they also depend upon social constructions. Studies of legislative histories using the social constructions framework find that electoral leaders rely heavily on discourse that engages images of deservedness and deviance. Lina Newton (2005) found that a narrative that stressed "criminal aliens" was dominant in the congressional debates on immigration control in 1996, and "lawlessness" continues to be invoked in 2006 in support of

draconian measures against undocumented workers, clearly abetting their construction as deviants.

“Moral entrepreneurs” have been identified as critical causal links between social constructions of deviant groups and policy design (Nicholson-Crotty and Meier 2005). Moral entrepreneurs translate broad-based social anxieties and negative perceptions of marginal groups into legislative crusades that convince others that particular deviants are not being sufficiently punished. Sean Nicholson-Crotty and Kenneth Meier (2005) note that such entrepreneurs are often associated with dominant institutions in society, such as churches or government. They build upon widespread but not focused negative perceptions of groups. Nicholson-Crotty and Meier (2005) propose that “the causal link between social construction and public [policy] designs is not inevitable, but that numerous intervening factors mediate the connection between the two” (p. 224). Drawing upon the ban on the importation of opium in the 1880s and the 1984 passage of federal crime control legislation, they offer three propositions: “[T]he conditions include first the presence of a readily identifiable and socially marginal group with a value-laden stereotype. Second, a moral entrepreneur must focus public attention and fear on the actions of that group. Finally, there must be sufficient political profit to entice a policy champion to place the issue on the political agenda and work to secure passage of a targeted policy” (p. 228).

Proposition 5. Social constructions of target groups can change, and public policy design is an important, though certainly not singular, force for change. The seeds for altering social constructions can often be found in the unanticipated or unintended consequences of previous policy designs.

Social constructions are inherently resistant to change. Policy designs contain elements that can powerfully reinforce the social constructions of target groups and build up, reinforce, or undercut target groups’ attempts to change their situations. As Jacob Hacker (2002) attests, there are inherited legacies of established policies. One striking example of how constructions of “deviance” are self-perpetuating is the case of leprosy treatment in the United States. Janet Frantz (1992, 2002) presents compelling evidence that the federal government, through its policies, imbued American lepers (known in the medical trade as patients inflicted with Hansen’s disease) with a deviant status (i.e., incarcerating them in a Louisiana bayou, permitting them no outside contact or family life, depriving them of voting privileges, even denying them postal privileges). When medical science rejected the belief regarding the highly contagious nature of Hansen’s disease in the 1940s, as well as discovered a treatment protocol, the patients, after years of enforced separation from society, refused to be moved out of their deviant status for more than fifty additional years. The government succeeded in disbanding the colony only through a combination of attrition—patients dying off—and (literally) paying them up to \$33,000 per annum to leave. (Similar

conditions prevailed concerning the leprosy colony on the Hawaiian island of Molokai; see Tayman 2006).

Schneider and Ingram (1997) have suggested several circumstances in which the findings of science promote, inhibit, or have no effect upon policy change. They argue that science has the greatest influence when social constructions of groups are not at issue and the policy has no obvious public target. In such cases scientists may have defined the issue in technical terms that include only a very neutral construction of targets. Where strong social constructions exist, science that goes against the grain is usually ignored, whereas science that reinforces stereotypes is used as a rationale but changes few minds. Indeed, the scientist may not be immune to negative social constructions. For example, Cooper (2004) studied medical articles on opiate use during two time periods, 1880–1920 and 1955–1975. She found that health professionals attributed opiate addiction causes to “individual pathology when they believed that addicts were working class, poor, and/or non-white women and men,” and to “factors largely external to the individual when they believed the addicts were affluent, white women and men” (p. 435). It comes as little surprise to social construction theorists to discover that penalties for white middle-class contender groups are less daunting than those meted out to dependent or deviant groups.

Scientific authority can be crucial in cases where attempts are being made to change the construction of a group or when opposing constructions are contending. Glenda Kelmes’ (2004) study of mandatory drug treatment as an alternative to incarceration reveals how drug addicts were transformed from deviant to dependent target populations in the state of California through the testimony of medical professionals. Drug treatment facilities employing medical experts flourished under policy provisions directing resources and clients into treatment. These drug treatment professionals, growing in number and legitimacy with government resources, were important supporters in the voter-approved initiative that made drug treatment mandatory for drug offenders not involved in actually selling drugs. These experts portrayed drug users sympathetically as “ill” rather than “bad” and as persons who could be cured through treatment. The media campaign in support of the mandatory treatment initiative prominently displayed a figure in a lab coat talking to a white middle-class couple about the need for treatment for their well-dressed, white, drug-addicted son.

The feedback mechanisms that reflect and amplify prevailing constructions *can* be modified under some circumstances, and policy designs are one factor in this change process. While there are many influences outside policy that motivate such changes in social constructions, policy may provide focus, resources, arenas, and prompt mobilization of political actors essential for change in prevailing social constructions. It can also build the strength and influence of intermediary groups charged with service delivery, who are more positively constructed than the ultimate recipients who may be viewed very negatively. Battered women’s and homeless shelters, drug rehab centers, recreation facilities aimed at gang members, and

the like may attract financial support and build very positive images even though the clients they serve are neither powerful nor positive. On the other hand, the introduction of intermediary targets does not always improve the situation for disadvantaged populations. When private prisons became part of the policy domain, criminal justice policy scholars expressed concern that adding this more powerful and positively viewed institution to the policy arena would provide even more incentives for increasing the severity or scope of punishment policy (Schneider 1999).

Over-reaching policies that initiate a threat against a wide sector of groups, even when those groups are relatively powerless, may instigate challenges from social movements. Ellen Reese (2006) studied the success of a coalition of immigrant and community groups in restoring immigrant rights to welfare in California. She found that the broad resource and interpretive effects of policies stripping away immigrants' rights in 1996 gave rise to a powerful mobilization of challengers. She argues that more inclusive policy threats draw together multiple groups and stimulate elite patronage, both of which facilitate coalition building. The implementation structures of policy threats also affect opportunities to form successful movements. Policy designs determine how much time activists have to mobilize, the pace of their activities, and their choice of political aims (p. 279). These findings mesh well with David Meyers' (2006) contention that draft policy that had universal rules of application (the lottery) and included many upper- and middle-class youths provided a focus of anti-war activity during the Vietnam War. Draft boards, scattered all around the country, became sites of resistance for protestors, whose anti-war protests were largely legitimized by their social status.

A similar dynamic can be expected when policy confers so many benefits on advantaged groups that they begin to be constructed, not as "deserving" of what they get, but of getting more than they deserve. The social construction framework suggests that their construction should begin to shift from "deserving and entitled" to "getting more than they deserve," "greedy," or "wasteful" and that they may be reconstructed in the public's mind to fit into the contender category (powerful but not well regarded). Elected officials in particular have to guard against this potential reclassification, as they can move from the ranks of an elected public servant to those of a corrupt politician (deLeon 2005a). The recent example of U.S. House of Representatives leader Trent Lott resigning from his post because of alleged ties to illegal fundraising illustrates the danger of too many benefits being provided to contenders or advantaged groups. Overt benefits to contenders are especially risky, and policymakers need to conceal them, sometimes through creation of highly complex, convoluted policy logistics with numerous points during implementation where policy intent can be subverted. The policy image becomes negative through negative construction of the population or the unmasking of the deception in the policy design.

Target groups, working through the opportunity structures provided in policy designs, can sometimes influence their own social constructions. For minority groups who carry dependent or deviant classifications, court-interpreted policy

is often a focus of activity because of the judiciary's historic openness to civil rights claims. Stephanie DiAlto (2005) reveals the ways in which Japanese Americans worked to transform their images from "traitorous minority" to the "model minority." Before World War II, immigration policy and state property policies discriminated heavily against Japanese, barring their entry to the country and forbidding them to own their own lands. Rationalized as a defense measure, Japanese Americans were incarcerated in concentration camps located in remote areas of the United States. The task of reconstructing the image of Japanese Americans proceeded after the war in a series of court findings striking down state provisions restricting land ownership. As events unfolded, it is clear that factors in the general environment, including U.S. relations with Japan in the postwar years, were important. The rising economic power of Japanese Americans also enabled them to take advantage of opportunities, to mobilize, and to bring court suits.

The Japanese American case also reveals that social constructions become embedded in policy history and make efforts by target groups as well as others to develop a more positive construction difficult. As Lina Newton (2005) and Mara Sidney (2003) show, immigrant groups and black Americans have experienced alternative strains of negative and more positive social constructions in past public policies. Once a group is successfully negatively constructed, and that construction is embodied in law, a negative degenerative social memory often remains as a precedent. It has been more than a half-century since *Brown v Board of Education* sought to undo the racial bias ingrained in law by *Plessey v Ferguson*; even though most would agree there is less racial bias than before, it has not been eliminated. Even though target groups may win policy victories that appear to afford more resources and more positive images, change for the better is not secure. In a changed and almost always contentious political environment, there may be a re-emergence of negative discourse and, with the help of moral entrepreneurs, gains by dependent or deviant groups may be lost.

The work of Joe Soss and Sanford Schram (2005) provides important insight into the limits of policy design in changing social constructions of target groups. They examine whether the welfare-to-work reform of 1996, intended at least in part to provide a more positive image for welfare recipients, actually led to a more positive view. They found that negative stereotypes of welfare recipients persisted, even after strict rules were adopted that reduced welfare roles, forced many recipients to take low-paying jobs, and limited eligibility to a finite period. Drawing on the work of Murray Edelman (1964), they reasoned that welfare reform did not affect social constructions because the public was not able to focus on the relatively invisible changes in the elements of welfare policy design. Instead, the general public continued to hold onto the persistent old narrative that poor people do not work because welfare recipients can get government benefits without doing anything in return. The social welfare debate, even though it was widely reported, did not contain a consistent counter-narrative that challenged the well-entrenched negative perceptions of welfare recipients. Policy discourse continued to convey the same messages about dependence and

deviance, about how to make this problematic group accountable. Further, the researchers note that there was no experiential learning occurring because so few people in the advantaged or contender quadrants (i.e., those whose opinions are actively surveyed) were actually affected by welfare reforms.

Proposition 6. In degenerative policymaking contexts, differences in policy designs are related to different patterns of policy change.

Several theories of policy change have gained considerable currency over the past two decades, including the advocacy coalition framework, the institutional analysis and development framework, and the path dependency/punctuated equilibrium theory (Sabatier 1993; Sabatier and Jenkins-Smith 1993; Ostrom 1990, Baumgartner and Jones 2002; Pierson 1993, 2000, 2004). None of these, however, examines the Lasswellian question of who benefits and loses from policy change, and none holds for all conditions (Lasswell 1936). The social construction framework is useful in understanding who benefits from change and whether change impacts the conditions of democracy.

The social construction framework postulates that path dependency (and increasing returns) is expected to characterize two sections of the policy space: the conferral of benefits to advantaged groups and punishments to deviants. Each successive policy step that confers more benefits on powerful, positively viewed groups generally will result in increased support from the target group and little or no opposition from others. Similarly, each successive increase in punishment for deviant groups produces public approval. Both of these processes may eventually come to an end (i.e., Baumgartner and Jones' [1993] punctuated equilibrium), but only long after the policy has ceased to produce effective results.

In contrast, inflicting unwanted but policy-necessary regulations on advantaged groups is expected to result in diminishing rather than increasing marginal returns. Advantaged groups are likely to be able to resist the imposition of any burden that is not obviously justifiable to accomplish some agreed-upon policy purpose. Policy change will resemble a stable equilibrium model, where any additional policy burdens will generate too much opposition to be politically sustainable. When burdens are imposed on advantaged groups, the power resources and positive constructions of such groups are more likely to spark counter-mobilization, resistance in implementation, legal challenges, and other defenses not typically available to dependents or deviants. For example, the 1985 immigration act that imposed sanctions on employers who hire illegal immigrants was seldom enforced and has been weakened with each successive revision of federal immigration policy (Newton 2005). Sidney's (2005) study of housing has shown that each revision of the 1968 Fair Housing Act has weakened the provisions aimed at banks and real estate interests intended to ensure fair housing for racial minorities.

In a similar way, social construction theory posits that punitive policies against deviants are likely to have more staying power than treatment policies, such as

those that reclaim, retrain, and release criminals. Research on changes in incarceration policy in the American states from 1880 to 2003 shows that periods of sustained increases in incarceration were more path dependent than periods of sustained decreases (Schneider 2006). In fact, periods of increases typically lasted far longer, were more frequent, and were less apt to be broken by extreme punctuations. The result is that the United States now has the highest incarceration rate in the world (Schneider 2006).

When conferring benefits, such as alternatives to punishment, to deviant groups, path dependency is expected to be rare or nonexistent. Instead, political tolerance for providing good things to bad people in the name of treating crime like an illness is very low and likely to be characterized by diminishing marginal returns. Such policies will quickly run out of support and/or produce opposition, leading to equilibrium-type, pluralist change. Thus, providing benefits to deviants is not likely to follow a path dependent model, as policy entrepreneurs, media, and interest groups will mobilize to gain political capital and will pull the policy back toward equilibrium.

The social construction of target populations also is useful in understanding *when* policy change will follow learning models, such as the advocacy coalition framework and Ostrom's institutional analysis. As noted earlier, degenerative policymaking contexts are not ubiquitous, and some policymaking institutions are sometimes able to avoid the negative and divisive social constructions and hyper pluralism for political gain that characterize degenerative democracy. The proposition here is that learning models are more apt to hold in policymaking when there are no germane publics (May 1991) or no target populations with clear-cut social constructions, or when the target populations are essentially balanced, both in terms of their political power and reputation for deservedness. The social constructions framework is also useful in specifying the circumstances in which science and expert opinion are not likely to be influential, that is, where social construction of target groups is deeply embedded and dominates discourse in an issue area such as immigration, welfare, and crime.

FUTURE DEVELOPMENTS IN THE SOCIAL CONSTRUCTION FRAMEWORK

The application of social construction to policy design and to the effect of policy on democracy continues in many ways as an evolving framework, moving from a richly illustrative set of ideas focused on various elements of policy design in its earliest iterations (e.g., Schneider and Ingram 1990; Ingram and Schneider 1991; Ingram and Schneider 1993) to much more explicit propositions and intriguing research design possibilities (Schneider and Ingram 1997, 2005a; Nicholas-Crotty and Meier 2005). Still, a number of reservations regarding social construction have been raised that warrant attention.

One of the early issues regarding the framework was that it did not generate testable propositions (Sabatier 1999). This perception may have arisen because the

social construction literature often features qualitative methodologies that emphasize inductive rather than deductive theory. The social construction framework, however, was primarily developed to answer important questions about the relationship between policy and democracy that other approaches have not addressed either directly or comprehensively or when alternatives did not provide satisfactory answers. As these questions have been probed by many observations of public policies as well as systematic analysis, tentative answers have been developed until there now are literally dozens of propositions that can be easily derived from the basic framework. In much the same vein, Shaw's (2005, p. 912) suggestion that "the central concepts are rather amorphous" seems rather idiosyncratic, given the numerous operational applications of the framework (see Table 4.1).

TABLE 4.1. Published Research on Social Constructions and Policy Design

Author	Policy Area	Comments
A. Social constructions, identity, political attitudes, participation, and citizenship		
Campbell (2005)	Senior Citizens	Historical analysis of the impact of social security on political participation and understanding of citizenship among seniors.
Frantz (2002)	Health/lepers	Study found that persons suffering from leprosy internalized the highly negative social construction imposed by a half century of public policy.
Ingram and Schneider (2006); Schneider and Ingram	General	How policy design serves democracy; How policy design produces unequal citizenship.
Jensen (1996, 2003, 2005)	Veterans	Historical analysis showing how a target population was selected, rationales used, and how these produced long-term effects on identity, participation, and policy change.
Kumlin (2004) and Kumlin and Rothstein (2005)	Welfare	Survey research studies of how experiences with the design of welfare state institutions universalism (v. needs testing) in Sweden impact political orientations of trust and social capital.
Link and Oldendick (1996)	Equal opportunity/multiculturalism	Survey research study showing that the social construction of target groups is as important (or more important) than social class as predictor of support for equal opportunity policy and multicultural policy.
Mettler (2002); Mettler and Welch (2004);	Veterans	Historical analysis of the GI Bill and survey research study show how characteristics of the GI policy design impacted attitudes and participation.
Mettler and Soss (2004)	General	Synthesis of how characteristics of policy designs impact citizen attitudes and participation.
Mettler (2005)	Veterans	In-depth interviews with veterans shows that some designs facilitate conventional participation whereas others spark contentious participation.

B. Social constructions, policymakers/implementers and the allocation of benefits and burdens

Schriner (2005)	Voting	Historical analysis; how “idiots” and “insane” came to be denied the vote.
Schur, et al (2003)	Disability	Survey research study finds that disabled populations, as predicted by S&I framework, show lower levels of external political efficacy.
Simon (2002)	Americorps	Survey research study finds that participation in Americorps had a positive impact on civic participation regardless of race or gender.
Soss (1999, 2000, 2005)	Welfare/ Social security Disability	Comparative analysis (survey research and in-depth interviewing) of AFDC and SSDI policy designs showing differences in orientations, identity and participation attributed to differences in characteristics of the policy design.
Soss and Schram (2005)	Welfare	Study found that the welfare reform act of 1996, which some expected to change the image of welfare recipients, did not have this effect.
Czech, et al (1998)	Endangered species	Study of the social construction of broad types of species found that the more positively constructed ones are better protected by policy.
Davies, et al (2002)	Health	Study finds that the most vulnerable groups (using the S&I framework) suffered from systematic biases in health care report cards.
Donovan (1993)	Health/AIDS	Analysis of Ryan White Act shows that research funds were disproportionately allocated to those with more positive social constructions.
Hogan (1997)	Prison/AIDS	Analysis of prison policy shows that benefits went to the most advantaged groups and the least protected were those considered most deviant, within a prison culture.
Houston and Richardson (2004)	Drunk driving	Survey research of several types of automobile drivers finds that demand for more coercive policy is from those with most negative view of drunk driving and that coercive policy is the least apt to have an impact on those who drink the most.
Hunter and Nixon (1999)	Housing	The discourse analysis finds that social constructions of target populations influence the policy agenda, the rationales that legitimize policy choices, and the distribution of rewards and punishments to various target groups in UK housing policy.
Maynard-Moody and Musheno (2003)	Police, teachers, child protective services	In-depth interviews with street-level bureaucrats show that they “put the fix” on clients and adjust their service level upward or downward based on the deservedness of the client.
Newton (2005)	Immigration	Comparative analysis of social constructions and rationales shows their centrality in how elected officials design immigration policy.

Nicholson-Crotty and Meier (2005)	Crime	Analysis of three cases shows the conditions under which negative social constructions are most apt to become relevant to policymakers.
Schroedel and Jordan (1998)	Health/AIDS	Analysis of senate voting on multiple AIDS policies confirms most aspects of S&I framework including distribution of benefits and burdens, sub-rosa policy (to contenders); rhetorical (to dependents).
Stein (2001)	Title I Education	In-depth interview study finds that categories in policy design influence how teachers think about (and treat) students; and how students think about themselves.

C. Social constructions and choice of design elements (problem definition, tools, rules, rationales)

Camou (2005)	Neighborhood-based organizations	Study finds that neighborhood-based organizations were able to serve the “poorest of the poor” and that policy tools varied depending on the type of organization.
Campbell (2003)	Social security	Concludes that the universalistic nature of social security, compared with means-tested eligibility rules, is important in understanding participation patterns of seniors.
Chanley and Alozie (2001)	Battered women/welfare	Finds that benefits to battered women are largely rhetorical rather than substantive; and high levels of local discretion (as predicted by the S&I framework).
Crowley and Watson (2006)	Child support/welfare	Finds that policy rules systematically disadvantage fathers whose children are on welfare, compared with those whose children are not; and orientations toward the state differ accordingly.
Jurik and Cowgil (2005)	Micro enterprise loan programs	Case study and national survey find that micro enterprise loan nonprofits “creamed” clients, changed rationales and other design elements to be “successful” in terms of federal policy designs.
Nicholson-Crotty and Nicholson-Crotty (2004)	Prisons/health	Quantitative (comparative state) study finds that the extent of negative social constructions of criminals in a state is associated with choice of policy tools and with ineffective implementation.
Reichenbach (2002)	Health/cancer	Analysis shows that the social construction differential between breast cancer and cervical cancer affected the priority given to these in Ghana.
Schram (2005)	Welfare	Author contends that deceptive rationales, even if intended to empower marginalized groups, are in the long run counterproductive.
Silver and Miller (2002)	Mental health and crime	Shows that actuarial risk assessment tools are more apt to be used on marginal populations and exacerbate marginality.

D. Social constructions change and policy change

Anglund (1998)	Small business procurement	Historical analysis (1953-1993) finds that positive social constructions are central to understanding which of several competing problem definitions will be successful in policy change.
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Anglund (1999)	Small business procurement	Historical and comparative policy analysis shows that social constructions of target groups are important in understanding when a “comparison effect” form of policy learning is likely to lead to policy change.
Bensonsmith (2005)	Welfare	Author contends that the Moynihan report’s negative construction of welfare mothers set the stage for the negative constructions that still prevail.
Birkland (2004)	National security	Using Sept. 11 as a learning / focusing event, the study suggests that “deserving” victims will be the most popular recipients of federal largesse after a crisis or catastrophe.
DiAlto (2005)	Minorities	Historical analysis of change in the social construction of Japanese Americans and change in policy designs for this group.
Ingram and Ingram (2006)	Organic agriculture	Analysis shows how a marginalized social movement created for themselves a social construction of “expert” that led to policy change.
Kelmes (2004)	Crime/drugs	Qualitative study examines how change in the social construction of drug users led to passage of California’s drug prevention act.
Lantz et al (2003)	Health	Qualitative study of the breast and cervical cancer prevention and treatment act of 2000 shows that a “window of opportunity” is more apt to open up for a positively viewed target population.
Menahem (1998)	Water policy (Israel)	Finds that social constructions of target populations are an important part of problem definitions and policy change.
Pride (1999)	Race/minorities	Analysis shows that national and local factors converged to change the social construction of blacks which in turn changed the policy design.
Reese (2006)	Welfare/ Immigration	Analysis shows that broad-based policy threats served as a point of mobilization for negatively constructed groups and enabled success in overturning negative policy.
Schneider (1999)	Prisons/ privatization	Historical analysis and quantitative state analysis shows that when policy overreaches, opportunities for policy change occur.
Schneider (2006)	Incarceration	Time series (1890 to 2003) and comparative state study shows inflicting punishment on criminals is more susceptible to path dependency; attempts to provide more positive policy to criminals leads to punctuations.
Soss and Schram (2005)	Welfare/TANF	Survey study finds that welfare reform act of 1996 has not led to a more positive construction of welfare recipients.
Wilson (2000)	General	Contends that social constructions of target populations are one of the factors holding policies in place (path dependency) and change in social constructions is one of the keys to policy change.

Schneider and Ingram's (1997 and 2005a) work related types of target groups to very specific elements of policy design and then linked these to specific types of political orientations and types as well as to levels of political participation. The original framework, for example, suggested that provision of benefits to contenders would be a policy domain especially subject to deception, and that, when benefits became seriously oversubscribed to advantaged groups, highly deceptive policy designs and rationales would ensue. These propositions then needed to be tested. The framework's intent is to generate propositions that link policy designs to important aspects of society—citizenship, democracy, justice, effective problem solving—and thereby serve to build empirical theory but also a normative basis for improved policy design.

A second area of concern was identified by institutional theorists who saw in the initial framework a lack of attention to history and to the power of institutions. The initial framework and the articles preceding it focused on integrating behavioral perspectives with interpretive and constructionist ideas within a broader context of linking public policy to democracy. In this sense, the critics (see Lieberman 1995, citing March and Olsen 1989) were correct, even though the original framework treated policy itself as an institution with deep historical roots and long-term effects. In subsequent work (especially Schneider and Ingram 1997), the social construction framework made explicit two types of institutional cultures: degenerative politics and professionalized or expert politics. The former is characterized by a hyper-competitive policymaking setting containing negative, divisive, and demeaning modes of communication, deception, and long-term factions with highly negative views of one another (Schneider and Ingram 1997). The second is a professionalized institutional culture dominated by scientific rationales—in which policymaking is subject to a far more instrumentally oriented, means-ends reasoning and expert language—that will produce very different kinds of designs and have quite different effects on citizenship and democracy (some positive, some negative). A key proposition is that the second type of policymaking culture is much more apt to occur when a policy does not have visible and vocal target populations that carry negative or positive social constructions. When positive and negative constructions are present, policymakers may quickly realize the political capital to be gained and institute degenerative patterns of policymaking. When such constructions are absent and strong administrative agencies with high levels of expertise are present, professional norms and rules of evidence from the specialized disciplines involved in the policy arena will be the primary drivers of policy design.

Further issues with the framework have been whether social constructions are a unitary phenomenon (Lieberman 1995, p. 438) and whether these constructions are stable across policy arenas (Schroedel and Jordan 1998). Some of this criticism is attributable to the idea in constructivist theory that social constructions are hegemonic; but from an empirical perspective, this is almost never the case. In politics, social constructions sometimes are so ingrained that

everyone believes they are “natural” and “true,” only to change much later. But other constructions are contested or interpreted in very different ways even during a single policy debate (Newton 2005). What might be a dependent population in one perspective (Cuban immigrants fleeing a dictator’s rule) could easily be viewed as more problematic from another perspective (e.g., these self-same Cuban immigrants being forced to return to Cuba for no better reason than because they were apprehended by the Coast Guard before they touched American soil). Similarly, a recent dissertation (VanLeeuwen 2006) has found that differing (but relevant) parties have attributed divergent behavioral characteristics to the very same group (in this case, homeless children in Denver), such that they could either be dependents or deviants, depending on who is characterizing them. The suggestion has been that, for reasons of clarity and comparisons across research applications, boundary conditions demarcating these categories need to be carefully considered and refined, but must be operationalized within the context of the study.

In response, we agree. The social construction framework was never intended to imply that there is always a uniform social construction. Indeed, much of the dynamism of policymaking is in persuading others that a particular construction of target groups, and a particular way of framing the broader issue, is the “right” one and, therefore, particular policy design elements are the logical choice. The purpose of the social construction framework is to help explain how and why particular kinds of policies are produced in particular contexts and how these shape subsequent participation patterns, political orientations, meanings of citizenship, and the form of democracy that prevails. Social constructions are “created,” “used,” and “manipulated” in the production of policy and the meaning of citizenship. Finding that some constructions are contested in no way lessens the value of the framework and, in fact, strengthens the empirical base of understanding the linkage between policy and democracy.

A key challenge for the theory of social construction of target groups is in understanding the mechanisms underlying transitions from one cell to another (see deLeon 2005b). That is, what elements are necessary for a group to leave the advantaged cell and lose sufficient reputation that they move from deserving toward contender (or, of course, for a dependent group to lose its public “sympathy” and move from dependent to deviant)? A set of indicators demarcating a group’s present placement in the four-cell grid already exists. *Deserving and Entitled* (Schneider and Ingram 2005a) and the authors’ exchange with deLeon in *Public Administration Review* (deLeon 2005b; and Schneider and Ingram 2005b) make considerable headway in understanding how a group can change its social construction and move from one cell to another. A further and necessary step is comparative analysis (or meta-analysis) of changes in the construction of different target groups. For instance, what characteristics or activities that marked the movement of the Japanese American community from an incarcerated minority to its present “model” minority (DiAlto 2005) elude large segments of

the Afro-American and Hispanic communities? What prevents dependent groups, such as homeless people, from forming winning political coalitions with other groups similarly regarded?

Another challenge for the theory of social construction is to become relevant to other theories and approaches in public policy. Strong links between institutional analysis and interpretative study of social constructions are being forged in the work of many scholars (see, for example, Soss 2005; Mettler 2002; Campbell 2003; and Sidney 2005). Rather than being alternative frameworks, the two are quite compatible, and additional studies of institutions will increase understanding of the conditions for degenerative, professional, pluralist, and inclusive governance contexts. As we have argued above, aspects of the social construction theory can help explain problems left unexplained by other approaches.

Whatever its remaining challenges, it is fair to say that not quite two decades of research and elaboration have solidified social construction of target groups as a research approach within public policy. As shown in Table 4.1, more than forty scholars, independent of Schneider and Ingram, have applied the framework to a wide range of public policy issues and tested many of its central propositions. In addition, we have identified eighteen PhD dissertations that explicitly used the framework as a model for explanation. Social constructions are an inherent and central feature of politics and policymaking; to continue working on the assumption that politics is only about power resources or advocacy coalitions or about the rules of various institutions is short-sighted. Furthermore, policies, and the social constructions embedded in them, are on the advancing edge of institutional and social change. As Ingram and Schneider (1995, p. 443) conclude, "Public policies can create distinctive clusters [of groups] that did not previously exist. . . . Through these kinds of differentiations, public policy can reinforce prevailing constructions or can work against the grain to serve as a source of change in constructions." In the course of creating categories of target groups and conferring social meaning upon them, public policy can serve to diminish social inequality and divisiveness and encourage active citizenship.

NOTES

1. The author gratefully acknowledges the insights offered by VanDeMark (2006) on the content of this paragraph.
2. Aid to Families with Dependent Children.
3. Federal Emergency Management Agency.

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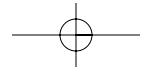
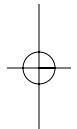
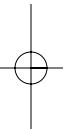
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PART THREE

Policy Networks and Subsystems

Change Over Time



5

The Network Approach

SILKE ADAM AND HANSPETER KRIESI

Policy making is taking place in policy domain-specific subsystems, which operate more or less independently of one another in a parallel fashion. Policy subsystems consist of a large number of actors dealing with specific policy issues. Political processes in these subsystems are not controlled by state actors alone; rather, they are characterized by interactions of public and private actors. The concern with a larger variety of actors and their interactions has given prominence to various concepts, depending on the research tradition in question. In the UK, one spoke of "policy communities," in the United States of "iron triangles" or "issue networks," in the research on interest groups on both sides of the Atlantic, one referred to pluralist or (neo)-corporatist arrangements.

The concept of the policy network is a more recent addition to this inventory. It has several roots. At first, it was strongly influenced by interorganizational theory (Thompson 1967; Benson 1978; Scharpf 1978; Aldrich 1979), which stresses that actors are dependent on each other because they need each other's resources to achieve their goals. This central idea lies at the core of most approaches to networks. At the same time, a virtually independent development occurred in political science, where the concept of policy networks grew out of the research on interest groups and agenda setting (Dowding 1995; Klijn 1997; Marsh 1998; Thatcher 1998; Marsh and Smith 2000).

The image of the policy network represents an intuitively comprehensible metaphor: regular communication and frequent exchange of information lead to the establishment of stable relationships between actors and to the coordination of their mutual interests. As Jegen (2003) points out, however, this intuition does not lead us very far: the difficulties already begin with the definition of policy networks and end with the confusion created by the large number of authors who use this concept in widely different ways. In fact, the network approach is hampered by a truly Babylonian conceptual chaos (Börzel 1998). In addition to employing the concept as a metaphor with limited analytical or explanatory

ambition, we can distinguish between at least three approaches to using the network concept.

First, there is the approach that uses the policy network concept to designate a *distinct, new governing structure*, which is to be distinguished from, on the one hand, vertically organized hierarchical forms and, on the other hand, horizontally organized market structures. The authors of this approach put the accent on the horizontal, self-organizing coordination between private and public actors who are involved in joint negotiating and problem solving. According to this view, governments are not only confronted with markets or hierarchies, but also with networks. Crucially, networks are self-organizing, which means that networks are autonomous and self-governing and that they resist government steering (Rhodes 1997, p. xii).

A second way to use the concept is to apply it *generically* to different types of empirically possible patterns of interaction among public and private actors in policy-specific subsystems. According to this approach, policy networks do not constitute a specifically new governing structure, but instead there is a great variety of patterns of interaction between public and private actors in policy making. In other words, there is a great variety of policy networks, and authors associated with this approach have developed various typologies of policy networks to capture the different forms of public-private actor relations. These typologies often rely on the classical distinction between pluralist and corporatist systems of interest intermediation. Whereas pluralist concepts stress the wide range of actors involved in policy making and the resulting competition among them, corporatist concepts point to the cooperation between few and central actors.

Third, there is the formalized, quantitative approach of social network analysis. This approach uses the tools of network analysis, which have been developed elsewhere to analyze the complex pattern of interactions of private and public actors in political decision making processes (Marin and Mayntz 1991; Knoke et al. 1996). It focuses on the relations between actors and not on the actors' characteristics. The quantitative analysis of networks results in images of the network structures and summary indices, allowing characterization of their key aspects (degree of centralization, connectedness, density, etc.). The interpretation of the emerging structures is often based on concepts taken from the research on interest groups (Knoke et al. 1996; Kriesi 1982; Sciarini 1995). However, just as with network descriptions and typologies, these structural analyses do not provide much insight into the origins or the dynamic change of networks.

The proliferation of network studies since the nineties points to the theoretical ambition of network research. However, network approaches have been criticized for their shaky theoretical basis. According to Dowding's (1995) critique, the classification of political reality in terms of networks has not allowed us to make much theoretical progress. Dowding's challenge has launched an extended debate, and his scepticism is not shared by all observers. Thus, Thatcher (1998, pp. 404–406) identifies new, promising trends: First, network analyses have been

extended by giving more consideration to factors previously omitted. In particular, the static bias of network analysis is being overcome with the introduction of questions relating to political change and to the impact of policy networks on outcomes and processes. Moreover, external factors such as institutions, ideas, values, strategies, and technologies are now also taken into account as independent determinants of network structures. Second, there are attempts to link the analysis of policy networks to other analytical approaches; policy network approaches incorporate, or are themselves incorporated into, previously distinct models.

Authors such as Dowding (1995), Peters (1998), and Thatcher (1998) attribute the greatest potential to formalized network analysis, which has so far been used only marginally in policy analyses. We believe that the most promising way to proceed is to link quantitative analyses of network structures to the established approaches of policy analysis discussed in this volume. Linking the policy-specific interaction system to the specific factors emphasized by these other theoretical approaches—belief systems, policy images, institutions, exogenous shocks—not only allows the addition of more dynamic elements into the network approach, but also the clarification of the structural basis of the other approaches. Network analysis should, however, be careful not to overreach its possibilities: qualitative analyses should limit themselves to the metaphorical description of networks, while quantitative analyses should model their structural characteristics.

In the remainder of this chapter, we first present the three descriptive approaches to policy networks in some more detail. Second, we present networks conceived as dependent variables. We analyze the influence of external factors on the pattern of interactions between actors, derive hypotheses about their origins from other theoretical approaches, and test them accordingly. Third, we introduce networks as independent variables; such studies analyze the influence of network structures on policies and their success.

DESCRIPTIONS OF POLICY NETWORKS

Policy Networks as a Specific Form of Governance

For Kenis and Schneider (1991), policy networks constitute a new form of governance characterized by the predominance of informal, decentralized, and horizontal relations. Defined in this way, the concept emphasizes that the policy process is not completely and exclusively structured by formal institutional arrangements. Accordingly, governmental organizations are no longer the central steering actors in the policy process. Kenis and Schneider attribute the emergence of the network concept to conceptual and methodological developments and, above all, to the empirical transformation of the policy making process in the post-war period. They observe an increasing scope, sectoralization, decentralization, fragmentation, informatization (increasing importance of information),

and transnationalization of policy making. Moreover, they note a blurring of boundaries between the public and the private spheres. These developments all point to the possibility that the actors who are formally responsible for political decisions, in fact, are not the only or even the most influential decision makers in the process of policy formation and implementation.

While it is rather likely that the discrepancy between formal and informal policy making structures has widened as a result of the just-mentioned developments, we should not assume that such a discrepancy constitutes a novel phenomenon. The model of a unitary, state-centered hierarchical political decision making structure has always been a fiction, quite remote from real-life decision making. Moreover, the extent to which the tendencies referred to above can be considered as new varies considerably from one institutional context to the next. For example, the blurring between the private and the public spheres has long been characteristic of weak states that do not have the required resources for policy making and that have, therefore, always been forced to delegate many public competencies to private actors such as interest associations or private corporations—to “private interest governments,” as they have been aptly called by Streeck and Schmitter (1985). Accordingly, the phenomenon to be captured by the policy network concept is neither as new nor as unique as some of its promoters have suggested.

Policy networks, in this perspective, constitute “(more or less) stable patterns of social relations between interdependent actors, which take shape around policy problems and/or policy programmes” (Kickert, Klijn, and Koppenjan 1997b, p. 6). Government agents do not occupy a dominant position within these networks, and they are not able to unilaterally impose their will, but they can attempt to manage the interdependent relations to promote joint problem solving in policy making (Kickert, Klijn, and Koppenjan 1997a). *Network management* is a form of public management that consists of “coordinating strategies of actors with different goals and preferences with regard to a certain problem or policy measure within an existing network of interorganizational relations” (Kickert, Klijn, and Koppenjan 1997b, p. 10). In contrast to democratic, hierarchical, or market coordination, network management is a “weak” form of governance that promotes mutual adjustment of the behavior of actors in the form of negotiation and consultation by trying to influence their strategies. It seeks to steer by initiating and facilitating interaction processes, by brokering and mediating conflicts, and by shaping network structures (Kickert and Koppenjan 1997, pp. 46–53).

According to Kickert and Koppenjan (1997, pp. 53–58), the success of network management depends on a number of conditions. First of all, many authors consider the *number of actors* to be a crucial condition: the fewer the number of actors involved in interaction processes, the easier it becomes to reach an agreement. However, Kickert and Koppenjan do not believe this factor to be of such importance. After all, the prisoner’s dilemma arises with only two actors. *Complexity of policy networks* constitutes another key factor for their

management, a factor related to the number of actors involved. In this respect, one should keep in mind that an increase in the number of actors and in the diversity of their composition not only increases the complexity of policy networks, but also the number of options for an adequate solution to the problem at hand. The *degree* to which networks are *self-referential* constitutes the third key aspect for network management. If networks are highly self-referential, opportunities for intervention from outside will be limited, because such networks do not take note of steering signals from the outside. Fourth, the *absence of sharp conflicts of interest* is also considered by most authors to be a precondition for network management. As interests are not an objective fact, but are formed in the course of interactions, Kickert and Koppenjan (1997, p. 56) claim, however, that “the scope for finding a joint solution is far greater than may be inferred from the reference to conflicts.” Finally, the higher the *costs* involved, the less actors will be inclined to take up the task of network management.

Typologies of Network Structure in a Policy Subsystem

Many authors take a more encompassing approach to policy networks and consider the concept generically. They usually propose typologies that allow characterization of the different types of structural configurations in policy subsystems. Unfortunately, the various typologies are hardly comparable. As has been noted by van Waarden (1992a, p. 49): “different authors have used similar labels to describe different phenomena, or different labels have been used for similar phenomena. What one author considers as corporatism, another has called clientelism or sponsored pluralism. As a result, differences of opinion may merely reflect differences in definition.”

We propose to make a fresh start with a two-dimensional typology of our own which, we believe, captures the essential network characteristics (see Kriesi, Adam, and Jochum 2006). Social networks consist of two basic elements: a set of actors and the relations between pairs of actors. Accordingly, networks are characterized by two types of variables (Wassermann and Faust 1999, p. 29): composition variables (referring to actors’ attributes) and structural ones (referring to specific types of ties between the actors). The two dimensions of our typology correspond to these two fundamental aspects of social networks. In our typology, actors’ attributes are systematically combined with modes of interaction (for a similar approach, see Scharpf 1997, pp. 43–49).

The first dimension refers to the actors’ attributes. Actors have specific capabilities, perceptions, and preferences. We choose the aspect of *capabilities*, which we consider most fundamental for the way policy networks operate. To characterize a network, we are interested in the distribution of capabilities over the set of actors, that is, in the *power structure* within a policy subsystem (for the power aspect, see also Atkinson and Coleman 1989; Rhodes and Marsh 1992; van Waarden 1992a). The distribution of power constitutes the first dimension of our typology of

network structures. This dimension is above all concerned with whether power is *concentrated* in the hands of one dominant actor or coalition of actors or whether it is *shared* between actors or coalitions of actors. Following the basic insight of the advocacy coalition approach (Sabatier and Jenkins-Smith 1999), we assume that, at a given moment in time, in a given subsystem, the set of actors is likely to be organized into a limited number of coalitions with varying power over the political processes within the subsystem. It is an empirical question whether or not the domain-specific policy making is dominated by one of these coalitions exerting what Baumgartner and Jones (1993) have termed a “policy monopoly.”

The existing literature also commonly refers to the relative share of power of different *types of actors*. We consider this aspect as a subsidiary element qualifying the overall distribution of power. When taking into account the composition of the various coalitions, we shall distinguish between state actors, on the one hand, and three types of actors in the system of interest intermediation (political parties, interest groups, and nongovernmental organizations/social movement organizations [NGOs or SMOs]), on the other hand. State actors constitute a special type, because they “have access to a very particular resource: their decisions are considered binding in society and are backed by the possibility of the legitimate use of force” (Coleman and Perl 1999, p. 696). But policy networks typically also involve actors of the three parts of the system of interest intermediation. We should extend the focus of the corporatism-pluralism literature beyond interest groups and take into account that there is a larger range of participants in the policy making process. Coalitions can be composed of one type of actors only (homogeneous) or they can incorporate different actor types (heterogeneous). Including this aspect into the first dimension—distribution of power—allows for a differentiated account of the power structure within the political process.

The second dimension of our typology deals with the interaction mode in policy networks, which refers to the *degree of cooperation* among actors and actor coalitions. We propose to distinguish between three forms: (predominance of) conflict/competition, (predominance of) bargaining/negotiation, and (predominance of) cooperation. Bargaining constitutes an intermediate or ambivalent type characterized by both conflict/competition and cooperation. Adding this dimension should allow us to better connect particular configurations of policy networks to policy dynamics—a connection that policy network analysis so far has had difficulties establishing (see, e.g., Thatcher 1998, p. 397).

By combining the two dimensions, (1) the basic distribution of power (not taking into account the secondary aspects of actor types) and (2) the type of interaction, six types of policy networks can be derived (see Figure 5.1). As we shall argue below, the six types are expected to determine the potential for, and the type of, policy change. The distribution of power qualifies the interaction modes in each case: the concentration of power introduces a hierarchical element into the pattern of interactions. In the case of conflict, we distinguish between a situation of *dominance*, where a dominant coalition with a policy monopoly is

Distribution of Power	Type of Interaction		
	Conflict	Bargaining	Cooperation
Concentration	Dominance	Asymmetric bargaining	Hierarchical cooperation
Fragmentation	Competition	Symmetric bargaining	Horizontal cooperation

FIGURE 5.1 Typology of Network Structures

challenged by a peripheral, minority coalition and a situation which we call *competition*, where the power differential between the challengers and the (formerly) dominant coalitions is less pronounced. With respect to bargaining, we distinguish between *symmetric* and *asymmetric* bargaining, depending on the power distribution. Similarly, we also distinguish between *horizontal* and *hierarchical cooperation*. In both instances, we follow the suggestion of Scharpf (1997, pp. 197–205) that bargaining/negotiation or cooperation “in the shadow of hierarchy” is conducted under conditions significantly different from those obtaining among actors all of whom are more or less equally powerful.

Formal Network Analysis

There are standard procedures to analyze network structures (Wassermann and Faust 1999). For the formal analysis of policy networks, it is crucial to recognize that networks constitute a system of actors. To analyze such a system, the “variable-based” approach begins by specifying the boundaries of the system, that is, by determining the set of relevant actors belonging to the system. The relevant members in policy networks are usually considered to be the formal organizations or corporate actors who participate in the domain-specific policy making process (Laumann and Knoke 1987). In addition, we might also consider the individual actors representing these formal organizations (e.g., Kriesi and Jegen 2001). The next step is to collect data for the attributes of the complete set of actors and the relationships obtaining between them. Without going into much detail, let us point out that we can measure the two dimensions of our typology with standard questions in interviews or with information based on qualitative analyses of policy case studies. The *distribution of power* may be operationalized by reputational, positional, or participation-based indicators which were originally developed in community power studies on local political elites (Aiken and Mott 1970; Laumann and Pappi 1976; Kriesi 1980). The operationalization of the *interactions* between the actors involved in a policy network based on interview data is also very much inspired by earlier work on political elites and their

involvement in specific policy areas (Laumann and Pappi 1976; Knoke et al. 1996; Kriesi 1980; Kriesi and Jegen 2001; Kriesi, Adam, and Jochum 2006). For qualitative case studies, Serdült and Hirschy (2004) provide a useful two-step procedure for the operationalization of interactions, the so-called APES scheme (actor-process-event scheme) (see also Klöti et al. 2005).

Formal network analyses procedures also allow for the identification of coalition structures. There are two prevailing techniques for identifying such structures: structural equivalence and subgroup cohesion (Laumann and Knoke 1987, p. 12). In the first approach, two or more actors jointly occupy a structurally equivalent position to the extent that they have similar patterns of ties with other actors, regardless of their direct ties to each other. The criterion of subgroup cohesion, by contrast, aggregates actors who maintain dense mutual interactions as "cliques." The first approach is implemented by block-modeling, MDS techniques, or clustering techniques (Wassermann and Faust 1999, chaps. 9 and 10), and the second approach typically uses graph theoretic or MDS techniques (Wassermann and Faust 1999, chap. 7). There is standard software available for the formal analysis of networks (e.g., UCINET, Pajek, GRADAP, and VISONE).

Contrary to the variable-based approach, the *generative* approach does not pre-specify the interaction system (Macy and Willer 2002; Cederman 2005). Instead, it specifies the mechanisms responsible for generating the interactions between the agents and then simulates the construction of the interaction system based on theoretical assumptions about the generative mechanisms. In other words, the generative approach models the interactions among the actors directly. In this approach, "explanatory value resides in the specification of (often unobservable) mechanisms and the reconstruction of a process within which they are embedded" (Cederman 2005, p. 867f.). The test of the model lies in the comparison of the configuration emerging from the model-based simulation of the interaction system with the configuration of the empirically observed system. Axelrod's (1984) well-known work on cooperation and Schelling's (1978) classic model of segregation illustrate this so-called *agent-based* approach. Axelrod shows the mechanisms allowing for the emergence of cooperation in anarchic settings; Schelling's model generates a spatial configuration of actors possessing dichotomous "ethnic" traits. This kind of approach allows for the "endogenization of interaction opportunities" and for studying the dynamics of networks (Watts 2003). Modern software technology has paved the way for agent-based modeling.

DETERMINANTS OF POLICY NETWORKS

The descriptive reconstruction of networks is a precondition for understanding their origins. Identifying the determinants of policy networks and connecting these determinants with specific features of policy networks is still largely a research desiderate (Thatcher 1998, p. 396f.; Coleman and Perl 1999, p. 697). Researchers have pointed to a variety of factors that might influence the emergence

and form of policy networks. The relevant factors vary with the territorial and functional specificities of the policy network under study. Networks exist at the transnational, European, national, regional, and local level and can be distinguished according to their macropolitical or domain-specific scope. If, for example, one seeks to analyze policy networks in European countries in sectors, where competences have been shifted to the European Union, one needs to take into account the European, the domestic, and the domain-specific contexts. Accordingly, we distinguish between determinants of policy networks at different territorial levels and of varying scope.

Transnational Contexts

Today, it is often not sufficient to consider only the domestic level when trying to explain the emergence and shape of policy networks (e.g., Coleman and Perl 1999; Richardson 2000; Kriesi, Adam, and Jochum 2006; Rhodes and Marsh 1992). The “internationalized policy environments” (Coleman and Perl 1999, p. 700) may influence policy networks at the national level by redistributing resources, opening up new access points, and creating new venues that allow for reopening matters previously settled at the national level. They may also provide the opportunity for the creation of new transnational policy networks. Most of the work on internationalized policy environments as determinants of policy networks deals with the European Union (e.g., Kriesi, Adam, and Jochum 2006; Peterson 1995, 2003; Kassim 1994; Héritier 1993a; Ansell, Parsons, and Darden 1997). European integration over the past decade has led to the creation of a polity of an unprecedented kind—a system of multilevel governance that encompasses a variety of authoritative institutions at supranational, national, and subnational levels of decision making (Jachtenfuchs and Kohler-Koch 2003; Hooghe and Marks 2001; Cowles, Caporaso, and Risse 2001). The EU is neither an international regime based on intergovernmental bargaining nor a federal state, but a distinctive structure of governance. Coleman and Perl (1999, p. 701ff.) emphasize, however, that the European Union is not the only internationalized policy environment: in addition to multilevel governance structures of the kind we find in the EU, they distinguish international “private regimes,” “intergovernmental negotiations,” and “loose couplings” that all affect policy networks.

Kriesi, Adam, and Jochum (2006) confirm the importance of the European context for shaping domestic policy networks in agriculture, asylum policy, and European integration. As they show, its impact depends on whether or not a country is a member of the EU as well as on the issue-specific extent of power shifts to the supranational level. Knill and Lehmkuhl (2002) claim that the impact of the European context varies according to the mechanism of Europeanization used: when the EU prescribes an institutional model, there is less freedom at the domestic level than when regulations seek to change domestic opportunity

structures or beliefs and expectations. In his comparative analysis of banking regulations, Coleman (1994) similarly argues that convergence of regulation at the national level depends on the strength of international or intergovernmental structures: with a harmonization of policy goals, a convergence in networks is less likely than with a harmonization of policy instruments.

Transnational context factors, however, are not sufficient to explain the emergence and shape of domestic policy networks (e.g., Cowles, Caporaso, and Risso 2001; Héritier and Knill 2001). Comparing policy networks in seven European countries, Kriesi, Adam, and Jochum (2006) show, for example, that in spite of a common European framework, national networks differ considerably regarding the degree of cooperation within the same policy domain. Research has, therefore, focused on factors at the domestic level that filter or mediate the impact of the transnational context (e.g., Héritier and Knill 2001; Knill and Lehmkühl 2002; Cowles, Caporaso, and Risso 2001). In such a perspective, transnational contexts serve as a macropolitical opportunity structure that adds new opportunities and constraints for domestic actors. Consequently, these contexts modify the distribution of power at the domestic level, allowing some actors to exploit the new opportunities in order to improve their relative positions in domestic conflicts while disadvantaging others (Héritier and Knill 2001, p. 259).

National Contexts

The national context can be systematically linked to the distribution of power and the type of interaction within policy subsystems, that is, to the two dimensions of our network typology. Thus, both key aspects of policy networks are influenced by the *formal national institutional structure*. Lijphart's (1999) typology of democracies allows us to distinguish between country-specific institutional structures according to the extent to which they concentrate power. Lijphart makes a distinction between "consensus democracies"—that is, countries which share power between several institutions and between different political forces within each institution—and "majoritarian democracies"—democracies that concentrate power in the hands of a few political institutions and actors. Based on Lijphart's assessment of power sharing, we can roughly divide countries into three groups: the group of the consensual-federal democracies (such as Switzerland or Germany), the group of the more majoritarian-unitarian democracies (such as France or the UK), and the intermediary types—either consensual-unitarian (such as the Scandinavian countries, the Netherlands, or Italy) or majoritarian-federal (such as the United States or Spain). We expect institutional power sharing in consensus democracies to contribute to the fragmentation of power within networks, whereas majoritarian democracies are expected to be closer to networks where power is concentrated in the hands of few actors. Moreover, *ceteris paribus*, we expect interaction patterns to be more cooperative in consensus democracies and more competitive in majoritarian democracies.

Coleman (1991) provides an illustration that links the macropolitical distribution of power to the arrangements for formulating and implementing policies. His comparison of monetary policy in the United States and Canada reveals differences that correspond to the macropolitical constraints: within the Westminster parliamentary system in Canada, the central bank is formally tied to the minister of finance, with no informal networks accompanying this relationship. By contrast, in the US, this relationship is defined by formal independence but strong informal ties. He concludes that macropolitical institutions must be incorporated into comparative analysis.

Lijphart's typology mainly characterizes the context of the national parliamentary arena, but it does not have much to say about the *administrative arena*, which is expected to constitute the major context for the interactions between interest groups and the state. The context of this second arena mainly depends on the autonomy and centralization of the state on the one hand and the system of interest associations on the other hand (Katzenstein 1978; Atkinson and Coleman 1989; Kriesi 1994, p. 395; Lehner 1988; Heinz et al. 1993). As Katzenstein (1978) argued, the amount of centralization in society and in the state and the degree of differentiation between the two are the critical variables in the establishment of policy networks. The more centralized and autonomous the state, the greater is its capacity for intervention, that is, the stronger it is. Similarly, the more centralized and autonomous (from their members) the peak interest associations, that is, the stronger they are, the greater their capacity to negotiate and to conclude binding agreements with each other and with their state interlocutors. Strong peak associations constitute the key element of the corporatist model according to Schmitter (1979). It is the combination of the two sides, however, that is crucial for the distribution of power and for the type of interaction in the policy networks: if both sides are equally strong, that is, power is concentrated on both sides, interaction patterns are more centralized and consensus oriented. This is the key hypothesis of the neo-corporatist literature (Schmitter 1981), which has been confirmed by the experience of the small European democracies (e.g., Katzenstein 1984, 1985; Lehmbruch and Schmitter 1982; Schmitter and Lehmbruch 1979). If both sides are equally weak, power is more fragmented and interaction patterns are expected to become more symmetrical and competitive. This has, for example, been illustrated by the failure of hierarchical cooperation (or neo-corporatist conciliation) in the British industrial relations of the 1970s (Cox and Hayward 1983; Regini 1987). If the state is much stronger than societal actors, unilateral interventions from state actors become a distinct possibility, as is illustrated by the case of France (Wilson 1987; Wilsford 1988), and if interest associations are much stronger, self-regulatory schemes are the likely result, as is illustrated by many examples from Switzerland (Kriesi 1998, pp. 264–271) and from the agricultural sector more generally. Explaining policy networks in industrial policy, Atkinson and Coleman (1989, p. 65) point out that a weak state tradition, the centrality of legislature, and the presence of a firm-centered industry culture "make it difficult

to meet the organizational requirements for concertation, state-directed and corporatist networks." When comparing patterns of policy networks between the state and industry, van Waarden (1992b) shows that the pluralist networks in the US can be traced back to a weak state and weakly organized civil society, whereas the corporatist networks in the Netherlands are a product of a strong state and strong civil society. Boase (1996) also sees the pluralist networks in the US health policy sector arising as a result of the state's weakness and corporatist networks in Canada arising as a result of the state's strength. Combining the typologies of the two arenas into a single one is a critical task for the specification of the national political context conditions for policy networks (see Kriesi 1994, p. 400).

Organizational sociologists have long been insisting on the difference between the formal and the informal side of structure. Analogously, we should take into account the distinction between the formal institutional structure and the *informal practices and procedures* (see Scharpf 1984, p. 260; Kriesi et al. 1995, p. 33ff.). Similarly, we can distinguish here between political contexts according to the extent to which they induce political actors to *cooperate informally*. There is, of course, the notion that consensus democracies and corporatist structures provide strong incentives for informal cooperation among political actors, while majoritarian democracies and pluralist structures go together with a more competitive or unilateral style of policy making. However, there is not necessarily a one-to-one relationship between the two aspects of the political opportunity structure. Thus, the British style of policy making is known to "emphasize consensus and a desire to avoid the imposition of solutions on sections of society" (Jordan and Richardson 1982, p. 81); in Britain, the concentrated power has traditionally been used (except for the conservative government under Margaret Thatcher) with a certain informal restraint (Punnett 1989, p. 208; Budge et al. 1998, pp. 188–190). By contrast, the Italian style of policy making appears to be more unilateral, although the country has institutions that are rather of the more consensus-democratic type.

Kenis (1991) points to the importance of informal domestic structures for the development of specific networks in Germany, Italy, and the UK in the chemical fiber sector. Among the relevant aspects of the national context, he includes the traditional political orientation towards the economy, the consistency in how industrial adaptation is managed, the degree to which industrial adaptation has become politicized, and the role played by public agencies (Kenis 1991, p. 307). Kriesi, Adam, and Jochum (2006) show that consensus and majoritarian democracies with varying informal styles of policy making yield the expected policy networks in seven European countries—with the exception of Britain: here, networks turned out to be quite fragmented, resembling those of consensus democracies and thus underlining the importance of informal practices and procedures. Knoke et al. (1996) also stress the importance of formal and informal institutional settings for explaining the character of labor policy in Germany, Japan, and the United States. In Japan, with its parliamentary system and an informal single power center jointly occupied by the peak governmental, political, labor, and

business organizations, labor policy can be characterized as a coordinated policy domain. In this domain "all major claimants would have to seek inclusion within the single power center or risk being totally shut out of any say in national policy decision" (Knoke et al. 1996, p. 220). In Germany and the United States, by contrast, there are various power centers: the conservatives are in an alliance with business associations, whereas liberal or socialist parties join together with labor unions. In Germany, these multiple informal power centers come together within a formal parliamentary system where opponents cooperate whenever feasible. In the United States, however, the multiple power centers are operating within a presidential system where "bitterly contending rivals . . . seek to displace one another in the policy making center" (Knoke et al. 1996, p. 220).

Nevertheless, a closer look at the differences between policy domains within countries shows the limitations of general country characteristics for explaining variations in network structures: country-specific configurations vary considerably from one policy domain to the other (Kriesi, Adam, and Jochum 2006; Schneider 1992; Coleman, Skogstad, and Atkinson 1997; Atkinson and Coleman 1985). Atkinson and Coleman (1985), for example, show that within the same country policy networks differ from sector to sector. In the Canadian dairy processing sector, for example, they identify corporatist networks, whereas pluralist networks are found in the pharmaceutical sector. As a result some researchers point to the necessity to take a closer look at the influence of domestic structures: each country may yield different domestic structures in different sectors at different times (Cawson 1985, p. 224; Atkinson and Coleman 1989, p. 66; Boase 1996, p. 294). However, macro institutional considerations are still relevant: it is likely that macropolitical institutions favor the dominance of a particular type of policy network in a specific country (Atkinson and Coleman 1989, p. 67).

Policy-Specific and Domain-Specific Contexts

As policy networks vary within nation states, policy- or domain-specific factors have to be taken into account to explain the emergence and form of policy networks in specific policy subsystems. In addition to the formal and informal institutional arrangements at the national level, researchers have identified *general* policy-specific variables (e.g., Kenis 1991, p. 307; Coleman et al. 1997, p. 276f.; Schneider 1992, p. 126) and *situational* policy-specific variables (e.g., Dudley and Richardson 1996; Rhodes and Marsh 1992, p. 193ff.; Kenis 1991) affecting the structure and change of policy networks. Coleman et al. (1997, p. 276f.) claim that specific features of a policy influence the shape of policy networks. Policies differ according to the incentives and resources they provide for group formation, the expectations they raise among groups or the masses, their visibility/salience for mass publics, and the traceability of their effects. Linking these factors to our typology of policy networks, one could hypothesize that policies which invite group formation produce networks with fragmented network structures. The

remaining three factors may influence the type of interaction in these networks: policies that are characterized by high expectations, a high visibility/salience, and easy traceability of policy effects may cause conflictual relations as state actors have to defend their positions against important groups and the mass public. By contrast, the more peripheral an issue and the more limited the range of interests affected, the greater is the capacity of a network to run its own affairs without politicization (Rhodes and Marsh 1992, p. 196). Schneider (1992, p. 126) also connects characteristics of policies to specific types of networks. He claims that the pluralist network in the German telecommunication sector is a result of the distributive character of this policy and of the development of its interest structure.

Policy- or domain-specific *situational* variables focus on the reasons for change within policy networks. Following Baumgartner and Jones (1993, 2002), we assume that the policy monopoly of a dominant coalition remains intact as long as it is not destabilized by exogenous shocks and/or the mobilization of competing coalitions. Negative feedback processes such as incremental adaptations and counter-mobilizations serve to stabilize a given configuration of power in a policy subsystem. Stabilization may, however, not always be possible. Positive feedback processes such as imitation and "serial shifts" may destabilize the configuration of power in a given system beyond repair. By "serial shifts," Baumgartner and Jones refer to attention shifting, which focuses the general public debate and "macropolitics" on a given subsystem and on particular characteristics of the policy process within that system. In phases with serial shifts, policy networks are assumed to show a high degree of conflictual interaction (Kriesi, Adam, and Jochum 2006). Exogenous shocks that cause serial shifts may have different origins. In addition to changes in the transnational and national contexts, *economic and technological developments* provide another set of environmental factors that have the potential to influence the shape of policy networks (e.g., Sabatier 1988; Jansen 1991; Richardson, Maloney, and Rüdig 1992; Marsh and Rhodes 1992; Dudley and Richardson 1996; Thatcher 1998, p. 405). Richardson, Maloney, and Rüdig (1992), for example, claim that the transformation of policy communities in the domain of water privatization in Britain was provoked by technological factors designed to solve the water supply problem. Jansen (1991) explores the new opportunity structure that is offered by scientific and technological change in the domain of High-T superconductors in Germany that affected the structure of the established network.

Another possible origin for exogenous shocks to policy networks are *ideas, values and knowledge* (e.g., Héritier and Knill 2001; Thatcher 1998, p. 405; Richardson 2000; Howlett 2002; Dudley and Richardson 1996). Thus, Richardson (2000, p. 1017f.) observes that "exogenous changes in policy fashion, ideas, or policy frames present a very serious challenge to existing policy communities and networks. New ideas have a virus-like quality and have an ability to disrupt existing policy systems, power relationships and policies." New ideas, knowledge, or values can lead to the dissolution of established relations between actors in a policy network, to the rise of new actors, or to established actors adopting new

issues. In a unique attempt, Jegen (2003) systematically studies the relationship between the structural and the ideational element of advocacy coalitions on the basis of policy networks in Swiss energy policy. She shows that overall, in this policy domain, there exists a correspondence between the belief systems and the structural side of the coalitional configuration, which perfectly confirms the expectations based on Sabatier's theory. But in the specific case of the policy subsystem dealing with the liberalization of the Swiss energy market, the correspondence turned out to be less coherent than expected. In this case, the general polarization between the growth coalition and the ecological coalition that permeates the policy domain in question dissolves and new coalition arrangements become possible. At the time of her study, this was a very new issue which, in part at least, cross-cut the established coalitional configurations, putting into question established policy monopolies. Her analysis does not make clear whether we are dealing here with a new issue that will eventually be inserted into the established structure or whether this new issue will cause a major punctuation and lead to a new equilibrium in the coalitional structure. In any case, it indicates that new issues introduce new ideas into policy networks, which have the potential for a restructuring of the coalitions.

It would be misleading, however, to claim that *policy-specific* variables affect policy networks in the same way, independently of the national context. Research on the European Union has made clear that the same policy means different things to different countries (e.g., Cowles, Caporaso, and Risse 2001; Héritier and Knill 2001; Kriesi, Adam, and Jochum 2006). Lowi's (1972, p. 299) thesis that "[p]olicies determine politics" has been criticized for exactly these reasons (for a summary, see Heinelt 2003).

The results generally point to the fact that there is not a single determinant of policy networks (Dudley and Richardson 1996; Atkinson and Coleman 1989; Kenis 1991; Kriesi, Adam, and Jochum 2006). Rather, a complex combination of factors has to be taken into account to understand variation in policy networks. Kenis (1991, p. 323) concludes: "If we take a closer look at the relationships between the different factors explaining the emergence of policy networks, it is seen that not all factors have the same weight, that some factors are conditional upon others, and that some of the factors are highly interrelated." Future research thus needs to deal with the complex interactions of transnational contexts with country- and policy-specific elements to explain policy networks as dependent variables. This implies that future research should no longer aim at national-level generalizations across all domains, nor at issue-specific generalizations across countries, but instead needs to look at the combined impact of different types of determinants.

THE IMPACT OF POLICY NETWORKS

Last, but not least, policy networks can be linked to policy change. Such change, as we understand it, is not independent of policy networks (Stones 1992). As is observed by Marsh and Smith (2000, p. 8), the "extent and speed of change is

clearly influenced by the network's capacity to mediate, and often minimize, the effect of such change." Consequently, policy change cannot be understood as a simple "environmental stimulus and policy network response model" (Stones 1992). Networks play a crucial role in shaping and constructing responses to external factors (see also Peterson 1995; Héritier and Knill 2001).

Early on, researchers highlighted the relationships between structures of subsystems and policy change. Iron triangles with their closed character were associated with stable, routine policy making. Issue networks, in contrast, were assumed to be more open to innovative policies (for a summary, see Howlett 2002, p. 238f.). Researchers at a later stage sought to fine-tune this relationship between structure and change. Atkinson and Coleman (1989, p. 60ff.), for example, claim that pressure pluralist networks produce reactive industrial policies which are organized around the immediate needs of specific firms, whereas concerted networks are closely linked to anticipatory styles of industrial policies. Boase (1996) draws a similar conclusion based on his comparison of the United States and Canadian health sectors. The lack of society-wide health insurance in the United States is interpreted as a result of the weak state within the pluralist network that only allows for reactive policy choices. Analyzing the agricultural networks in the United States, Canada, and Australia, Coleman et al. (1997) point to the fact that pluralist networks tend to abruptly change policies, whereas corporatist networks are closely interlinked, with negotiated change. In the latter case, there may be limits on how far change will go. Further analysis, they claim, has to show whether different modes of change have an impact on the eventual success of the design and on the implementation of the policy instruments (Coleman et al. 1997, p. 299). The impact of specific types of policy networks on implementation issues is studied by other authors (e.g., Atkinson and Coleman 1985; Schneider 1985). They claim that corporatist networks allow state actors to share the burden for implementation. In his comparison of the German Chemicals Law and the American Toxic Substance Control Act, Schneider (1985) claims that the German cooperative policy networks allow taking implementation issues into account within the formulation phase, whereas the competitive character in the United States leads to conflict postponement and to Congress enacting a skeleton of regulation. Döhler (1991) also connects networks with the success of reform policies. He suggests that highly fragmented as well as highly centralized network structures facilitate the formulation and implementation of neo-conservative reform policies in the health sector of Germany, Britain, and the United States. Policy domains that are characterized by pronounced and legitimate self-government, by contrast, tend to resist a policy that would change their basic mode of operation.

Howlett (2002) connects the insulation of policy networks and the symmetry between interest and discourse networks to the question of change. From his four case studies on Canadian politics, he concludes that sectors with non-insulated networks and a low symmetry between interest and discourse networks are more open for new actors and ideas and thus show changes in policy goals and programs. In sectors with insulated networks and a high symmetry between the two

types of networks, however, change was limited to alterations in instrument types and components, as new actors and ideas could not penetrate policy subsystems. Finally, Josselin (1996) connects the structure of domestic networks with the ways in which national interests are promoted in negotiations in the European Union. He concludes that power distributions in domestic networks determine whether private interests are represented by state actors at the European level or whether private actors pursue their own strategies.

This first glance at the impact of policy networks clearly shows that network structures are not only connected to specific policy outcomes ("what"), but also to the type of change ("how") that creates these outcomes. A systematic analysis of the impact of policy networks requires that we link the types of networks to the types of change creating different outcomes. Accordingly, we propose to connect each network category of our typology with a specific potential for, and type of, policy change. We would like to suggest that the *type of interaction* within a policy network determines the *form* of policy change. In conflictual situations we expect rapid (serial) policy shifts, whereas incremental changes are most likely to result in bargaining situations. Cooperative policy structures are likely to maintain the status quo. The *degree of concentration of power* is expected to determine the *potential* for change: we assume the potential for each type of change to be greater if power is fragmented. If power is fragmented, the scales are more easily tipped in favor of the challenging actor coalition. By contrast, if power is concentrated, challengers lack resources to break the "policy monopoly." Therefore, we expect the potential for serial shifts to be highest in situations in which power is fragmented and interactions are competitive. Héritier and Knill (2001) confirm these expectations when they analyze how nation states mediate the impact of the European input in road haulage and in railway policy: reform is more likely to be triggered by European regulations if domestic constellations are contested and characterized by uneven power structures. Figure 5.2 summarizes this argument.

Distribution of Power	Type of Interaction		
	Conflict	Bargaining	Cooperation
Concentration	Moderate potential for rapid (serial) shift	Low to moderate potential for incremental change	Low potential for change—maintenance of status quo
Fragmentation	High potential for rapid (serial) shift	Moderate to high potential for incremental change	Low to moderate potential for change—maintenance of status quo

FIGURE 5.2 Potential and Type of Policy Change

With its distinction of different types of change, this typology links up with the ideas of Hall (1993), who posits three orders of policy change. First-order change implies changes in the settings of policy instruments, which probably resembles more or less our maintenance of the status quo. Second-order change is characterized by the replacement of one policy instrument with another. This type of change has an incremental character. Third-order change entails a dramatic shift in policy goals, which is accompanied by a new ideological paradigm. We have labeled this third-order change as serial shifts. Héritier and Knill (2001, p. 259f.) also distinguish between three types of change: a high degree of change involves a rupture in the overall problem-solving ideology, a medium degree of change is characterized by a mixture of old and new policy elements, and a low degree of change leaves old measures substantially in place.

CONCLUSION

The policy network approach is more an analytical toolbox than a theory (Knill 2000, p. 122; Scott 2000, p. 37; Wasserman and Faust 1999, p. 17; Börzel 1998, p. 254; Dowding 1995, p. 157). Its analytical value lies in the fact that it conceptualizes policy making as a process involving a *diversity* of actors who are mutually *interdependent*. Taking into account the role of state and societal actors in policy making, it synthesizes state- and society-centered approaches (Boase 1996), going beyond a formal description of policy making (Héritier 1993b). Whether state or societal actors dominate this process becomes an empirical question (Knill 2000). However, network approaches do not only include various types of actors, but also require that the interactions between them are taken into account. "The fundamental difference between a social network explanation and a non-network explanation of a process is the inclusion of concepts and information on *relationships* among units in a study" (Wasserman and Faust 1999, p. 6). This implies a change of perspective: actors are no longer regarded as atomized and isolated, but as mutually interlinked. Such a perspective allows the combination of an actor-centered focus with an overall structural perspective. The network approach as an analytical toolbox gains strength to the extent that it allows one to operationalize associated concepts by drawing on formalized network analysis. The mathematical approach to network analysis has the potential to define structural properties of networks and structural attributes of actors in more than metaphorical terms (Wasserman and Faust 1999, p. 17).

As the network approach is not a theory per se, it needs to borrow hypotheses and models from other theories (Thatcher 1998, p. 406f.; Knill 2000, p. 122; Héritier 1993b, p. 143ff.). These other approaches help to identify the dimensions that are relevant to describe different types of policy networks. They also point to factors that might determine the emergence and shape of policy networks. In addition, these approaches are needed for understanding how actors behave within the networks and how exogenous and endogenous factors are connected in determining policy outcomes and change. At the same time, the

network approach may shed light on the structural features of other approaches, leaving behind the often implicit assumption that actors can be regarded as isolated and not mutually interdependent.

This analytical approach with its distinctive perspective on the policy process, its strong methodological foundations, and its hypotheses borrowed from other approaches has certain weaknesses. First, the potential of formal mathematical techniques of network analysis has not been widely explored in the field of policy analysis so far (Knill 2000; Börzel 1998). One of the major problems of network analysis is the lack of an adequate connection between theoretical concepts and sound methodological operationalization (Trezzini 1998, p. 379). Those advancing the methodology often lack knowledge in social science, whereas those employing the network approach in social science often do not use its formal techniques or do not use it correctly.

Second, empirical analysis still has to prove that "networks do not only *exist* in European and national policy making but are also *relevant* for policy processes and policy outcomes" (Börzel 1998, p. 267). As we have tried to argue, researchers are on the way to disentangling the relations between exogenous determinants of networks, endogenous network dynamics, and the resulting policy outcomes. However, there are also critical voices claiming that policy networks are not the most crucial factor in explaining policy change. Daguerre (2000, p. 256), for example, shows that, in the domain of child care policy, significant policy innovation took place in France and the UK without radical restructuring of the policy communities. She attributes more explanatory power to financial pressures in the UK and cultural traditions in France than to the networks themselves. Richardson (2000) also finds it difficult to explain policy change in terms of communities and networks. To understand radical shifts, he claims, one must look elsewhere for the reasons (Richardson 2000, p. 1022). Consequently, one of the main tasks of future research is to show whether and how network analysis improves our understanding of policy outcomes and change.

Third, an approach that needs to borrow its hypotheses from other approaches runs the risk of merely relying on a list of factors that are arbitrarily incorporated (Thatcher 1998, p. 407ff.). Moreover, the methodological foundations of the network approach and incorporated approaches are often not carefully examined and checked for compatibility. As a consequence, it often remains unclear whether the approaches complement or rival each other. If they are rivals, they should be tested against each other. If, however, they complement each other, one has to show why and how these approaches can be combined (see Thatcher 1998, p. 409). These problems of incorporating other approaches leads Daguerre (2000, p. 258) to call for a separation: "Although the wish to fill the existing holes of the policy network approach is perfectly understandable from the perspective of its proponents, it might be better to acknowledge the obvious weaknesses of the model but retain its heuristic potential in comparative and temporal analysis." If the linkage of approaches is done carefully, we expect this connection to be promising, increasing the explanatory potential of network approaches.

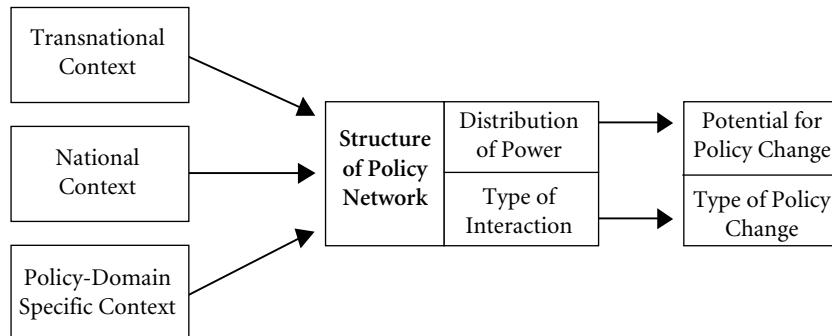


FIGURE 5.3 The Network Approach: Summary

To strengthen the network approach and to overcome some of its limitations, we proposed a descriptive typology of policy networks based on two key dimensions: the distribution of power and the predominant type of interaction. These dimensions capture the two basic elements of networks: actors and their relations. We have indicated that these two dimensions can be measured with standard questionnaires in interviews or with information based on qualitative analyses. Applying formal network analytic procedures to these data allows us to use our typology, not only for single actors, but also for coalition structures (see Kriesi, Adam, and Jochum 2006).

As we aim for more than a description of the policy process, the identified dimensions can be systematically linked to the determinants and to the effects of policy networks. Transnational, national, and policy- or domain-specific factors influence the power distribution and interaction structure within policy networks. However, none of these determinants can be viewed in isolation. Research has made clear that it is not sufficient to focus exclusively on transnational, national, or policy-specific factors. Hypotheses have to be tested that account for the complex interactions of all of these determinants. Consequently, research should no longer aim for national-level or issue-specific generalizations.

The proposed typology of networks also constitutes an independent variable when trying to explain policy change: the type and potential of policy change depend on the power distribution and interaction structure—a hypothesis already supported by empirical research (see Héritier and Knill 2001). Figure 5.3 summarizes our argument about the determinants and impacts of policy networks.

To fully understand policy change or maintenance, this hypothesis needs to be tested in more cases and with different external stimuli. As policy change is a function of exogenous and endogenous factors (e.g., Marsh and Smith 2000, p. 8; Dudley and Richardson 1996, p. 66; Daguerre 2000, p. 258), only a simultaneous analysis of both types of factors can show whether and how policy networks can

resist, alter, or accept environmental stimuli and thus serve as a core variable for understanding policy outcomes. Only when the understanding of how external factors and internal network dynamics influence policies and their changes is improved may we be able to specify which types of policy networks increase the legitimacy and efficiency of policy making (Börzel 1998, p. 267) and which types of networks are open for specific strategies of network management (Kickert et al. 1997a).

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6

Punctuated-Equilibrium Theory

Explaining Stability and Change in Public Policymaking

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Punctuated-equilibrium theory seeks to explain a simple observation: political processes are generally characterized by stability and incrementalism, but occasionally they produce large-scale departures from the past. Stasis, rather than crisis, typically characterizes most policy areas, but crises do occur. Large-scale changes in public policies are constantly occurring in one area or another of American politics and policymaking as public understandings of existing problems change. Important governmental programs are sometimes altered dramatically, even if most of the time they continue as they did in the previous year. While both stability and change are important elements of the policy process, most policy models have been designed to explain, or at least have been most successful at explaining, either the stability or the change. Punctuated-equilibrium theory encompasses both.

In recent years, it has become clear that the general approach, developed in the early 1990s to explain U.S. policymaking, applies to a broader set of governments than just the peculiar American system in which punctuated equilibrium was developed. Scholars around the world have confirmed aspects of the theory in a number of advanced democracies. In this chapter, we review the basic aspects of punctuated equilibrium, review new empirical studies in the United States and elsewhere, and discuss new theoretical developments. These developments have broadened punctuated-equilibrium theory to incorporate a general

theory of information processing in the policy process, a process that fails to deal smoothly and seamlessly with new information but rather falls prey to sporadic punctuations.

How are we to explain punctuations and stasis in a single theory? Several loosely related approaches in political science had previously noted that, although policymaking often proceeds smoothly with marginal, or incremental, accommodations, it also is regularly torn by lurches and significant departures from the incremental past (Kingdon 1995; Baumgartner and Jones 1991, 1993; Dodd 1994; Kelly 1994). A unifying theme of these approaches is that the same institutional system of government organizations and rules produces both a plethora of small accommodations and a significant number of radical departures from the past. Punctuated-equilibrium theory extends these observations by placing the policy process on a dual foundation of political institutions and boundedly rational decisionmaking. It emphasizes two related elements of the policy process: issue definition and agenda setting. As issues are defined in public discourse in different ways, and as issues rise and fall in the public agenda, existing policies can be either reinforced or questioned. Reinforcement creates great obstacles to anything but modest change, but the questioning of policies at the most fundamental levels creates opportunities for major reversals in policy outcomes.

Bounded rationality, which stresses that decisionmakers are subject to cognitive limitations in making choices, was the major foundation of theories of incremental decisionmaking in the budget process (Wildavsky 1964). Neither incrementalism nor globally rational theories of preference maximization fit well with the joint observations of stasis and dramatic change that are the dual foci of the punctuated-equilibrium approach. However, if we add the simple observation that attention spans are limited in governments just as they are in people, then we have a theory of decisionmaking that is consistent with punctuated-equilibrium theory and with what is actually observed. Since agenda-setting theory always rested on such a decisionmaking foundation, punctuated-equilibrium theory simply extends current agenda-setting theories to deal with both policy stasis, or incrementalism, and policy punctuations.

For the authors of this chapter, the clearest explanation for both marginal and large-scale policy changes comes from the interaction of multilevel political institutions and behavioral decisionmaking, a combination that creates patterns of stability and mobilization or punctuated equilibria.¹ In this chapter, we examine punctuated-equilibrium theory and its foundations in the longitudinal study of political institutions and in political decisionmaking (for other reviews, see John 2006b; Robinson 2005, 2006; and McFarland 2004, which puts the theory in the context of the development of pluralism). Next, we extend the punctuated-equilibrium theory to national budgeting and provide some recent evidence of punctuations and equilibria in U.S. national government spending since World War II. Then we turn to how the theory has been generalized, including extensions

to policymaking in U.S. state and local governments as well as European national governments. We conclude with an assessment of the strengths and weaknesses of this approach to understanding public policymaking.

PUNCTUATED EQUILIBRIA IN PUBLIC POLICYMAKING

Since the path-breaking work of E. E. Schattschneider (1960), theories of conflict expansion and agenda setting have stressed the difficulty that disfavored groups and new ideas have in breaking through the established system of policymaking (Cobb and Elder 1983; Cobb and Ross 1997; Bosso 1987). As opposed to smooth, moderate adjustments to changing circumstances, the conservative nature of national political systems often favor the status quo, thereby making conflict or an extraordinary effort necessary for a major change.

When Baumgartner and Jones (1993) analyzed a number of U.S. policymaking cases over time and over a variety of issue areas, they found (1) that policymaking both makes leaps and undergoes periods of near stasis as issues emerge on and recede from the public agenda; (2) that this tendency toward punctuated equilibria is exacerbated by American political institutions; and (3) that policy images play a critical role in expanding issues beyond the control of the specialists and special interests that occupy what they termed “policy monopolies.”

Baumgartner and Jones (1991, 1993) saw that the separated institutions, overlapping jurisdictions, and relatively open access to mobilizations in the United States combine to create a dynamic between the politics of subsystems and the macropolitics of Congress and the presidency—a dynamic that usually works against any impetus for change but occasionally reinforces it. For example, mobilizations are often required to overcome entrenched interests, but once under way, they sometimes engender large-scale changes in policy. The reason is that once a mobilization is under way, the diffuse jurisdictional boundaries that separate the various overlapping institutions of government can allow many governmental actors to become involved in a new policy area. Typically, the newcomers are proponents of changes in the status quo, and they often overwhelm the previously controlling powers. Institutional separation often works to reinforce conservatism, but it sometimes works to wash away existing policy subsystems.

In short, American political institutions were conservatively designed to resist many efforts at change and thus to make mobilizations necessary if established interests are to be overcome. The result over time has been institutionally reinforced stability interrupted by bursts of change. These bursts have kept the U.S. government from becoming a gridlocked Leviathan despite its growth in size and complexity since World War II. Instead, it has become a complex, interactive system. Redford (1969) differentiated between subsystem politics and macropolitics. Baumgartner and Jones extended Redford’s insight and combined it with the issue expansion and contraction insights of Schattschneider (1960) and Downs (1972) to form this theory of long-term agenda change and policymaking.

Punctuated-equilibrium theory began with a long-term analysis of American national policymaking, but its features have been useful in understanding public policymaking more generally. The theory focuses on the interaction of political institutions, interest mobilizations, and boundedly rational decisionmaking. And the dynamics of the interplay among institutions, interests, and attentiveness have been usefully applied to other advanced democracies as well as a variety of other policymaking venues. Many governments in the twenty-first century shoulder a wide variety of responsibilities and face an array of problems and policies seeking space on their institutional agendas. They have coped by evolving into interactive, complex systems of several levels.

No political system features continuous discussion on all issues that confront it. Rather, discussions of political issues are usually disaggregated into a number of issue-oriented policy subsystems. These subsystems can be dominated by a single interest, can undergo competition among several interests, can be disintegrating over time, or may be building up their independence from others (Meier 1985; Sabatier 1987; Browne 1995; Worsham 1998). They may be called iron triangles, issue niches, policy subsystems, or issue networks, but any such characterization can be considered only a snapshot of a dynamic process (Baumgartner and Jones 1993, p. 6). Whatever the name one gives to these communities of specialists operating out of the political spotlight, most issues most of the time are treated within such a community of experts. Nonetheless, within the spotlight of macropolitics, some issues catch fire, dominate the agenda, and result in changes in one or more subsystems. The explanation for the same political institutions producing both stasis and punctuations can be found in the processes of agenda setting—especially the dynamics produced by bounded rationality and serial information processing.

SERIAL AND PARALLEL PROCESSING

Herbert Simon (1957, 1977, 1983, 1985) developed the notion of bounded rationality to explain how human organizations, including those in business and government, operate. He distinguished between parallel processing and serial processing in individual and organizational decisionmaking. Individuals devote conscious attention to one thing at a time. Organizations are somewhat more flexible. Some decision structures are capable of handling many issues simultaneously, in parallel. Others handle issues *seriatim*, one or a few at a time. Political systems, like humans, cannot simultaneously consider all the issues that face them, so policy subsystems can be viewed as mechanisms that allow the political system to engage in parallel processing (Jones 1994). Thousands of issues may be considered simultaneously in parallel within their respective communities of experts. This equilibrium of interests does not completely lock out change. Issue processing within subsystems allows for a politics of adjustment, with incremental change resulting from bargaining among interests and marginal moves in response to changing circumstances. But parallel processing does operate

against larger policy changes, because it tends to be insulated from the glare of publicity associated with high-agenda politics.

Sometimes the parallel processing of issues breaks down, and they must be handled serially. In the United States, the macropolitical institutions of Congress and the public presidency constitute governmental serial processing, where high-profile issues are considered, contended over, and decided one at a time or, at most, a few at a time. When an issue moves higher on the political agenda, it is usually because new participants have become interested in the debate: "When a policy shifts to the macropolitical institutions for serial processing, it generally does so in an environment of changing issue definitions and heightened attentiveness by the media and broader publics" (Jones 1994, p. 185). It is then that major changes tend to occur. Issues cannot forever be considered within the confines of a policy subsystem; occasionally macropolitical forces intervene. It is the intersection of the parallel processing capabilities of the policy subsystems and the serial processing needs of the macropolitical system that creates the nonincremental dynamics of lurching that we often observe in many policy areas. Agenda access does not guarantee major change, however, because reform is often blunted in the decisionmaking stage. But this access is a precondition for major policy punctuations.

When dominated by a single interest, a subsystem is best thought of as a policy monopoly. A policy monopoly has a definable institutional structure responsible for policymaking in an issue area, and its responsibility is supported by some powerful idea or image. This image is generally connected to core political values and can be communicated simply and directly to the public (Baumgartner and Jones 1993, pp. 5–7). Because a successful policy monopoly systematically dampens pressures for change, we say that it contains a negative feedback process. Yet policy monopolies are not invulnerable forever.

A long-term view of U.S. policymaking reveals that policy monopolies can be constructed, and that they can collapse. Their condition has an important effect on policymaking within their issue areas. If the citizens excluded from a monopoly remain apathetic, the institutional arrangement usually remains constant, and policy is likely to change only slowly (the negative feedback process). As pressure for change builds up, it may be resisted successfully for a time. But if pressures are sufficient, they may lead to a massive intervention by previously uninvolved political actors and governmental institutions. Generally, this requires a substantial change in the supporting policy image. As the issue is redefined, or as new dimensions of the debate become more salient, new actors feel qualified to exert their authority whereas previously they stayed away. These new actors may insist on rewriting the rules and on changing the balance of power, which will be reinforced by new institutional structures as previously dominant agencies and institutions are forced to share their power with groups or agencies that gain new legitimacy. Thus, the changes that occur as a policy monopoly is broken up may be locked in for the future as institutional

reforms are put in place. These new institutions remain in place after public and political involvements recede, often establishing a new equilibrium in the policy area that lasts well after the issue backs off the agenda and into the parallel processing of a (newly altered) policy community.

POSITIVE AND NEGATIVE FEEDBACK

Punctuated-equilibrium theory includes periods of equilibrium or near stasis, when an issue is captured by a subsystem, and periods of disequilibrium, when an issue is forced onto the macropolitical agenda. When an issue area is on the macropolitical agenda, small changes in the objective circumstances can cause large changes in policy, and we say that the system is undergoing a positive feedback process (Baumgartner and Jones 2002). Positive feedback occurs when a change, sometimes a fairly modest one, causes future changes to be amplified. We use terms like “feeding frenzy” and “bandwagon effect” to characterize such processes. Negative feedback, on the other hand, maintains stability in a system, somewhat like a thermostat maintains constant temperature in a room.

Physical scientists have studied large interactive systems that are characterized by such positive feedbacks. Physical phenomena like earthquakes can result from fairly modest changes. Pressure from inside the earth can build up over time, causing the tectonic plates on the earth’s surface to shift violently, resulting in an earthquake. If we drop grains of sand slowly and constantly on a small pile of sand in a laboratory, the result is not small changes in the sandpile, but landslides. Many of these landslides are small, but some are huge (Bak and Chen 1991; Bak 1997). So a landslide need not be caused by a large-scale event; it may be caused by the slow and steady buildup of very small changes. Like earthquakes or landslides, policy punctuations can be precipitated by a mighty blow, an event that simply cannot be ignored, or by relatively minor events that add up over longer periods of time. What determines whether an issue will catch fire with positive feedback or not? The interaction of changing images and venues of public policies does.

As an example of positive feedback in policymaking, let us take the case of the involvement of the U.S. national government in criminal justice. Before the late 1960s, federal involvement in crime policy was relatively modest. During that time, however, the Lyndon Johnson administration initiated several new federal grant-in-aid programs to assist state and local governments in crime prevention and control. Congress passed the Omnibus Crime Control and Safe Streets Act in 1968; between 1969 and 1972 federal spending on crime and justice doubled in real dollar terms.

What happened? Crime was rising during this period, but more importantly other trends highlighted the increasing insecurity citizens were feeling, causing people and government officials to focus their attention on the crime problem. As Figure 6.1 shows, three important measures of attention and agenda access came into focus all at once: press coverage of crime stories, the proportion of

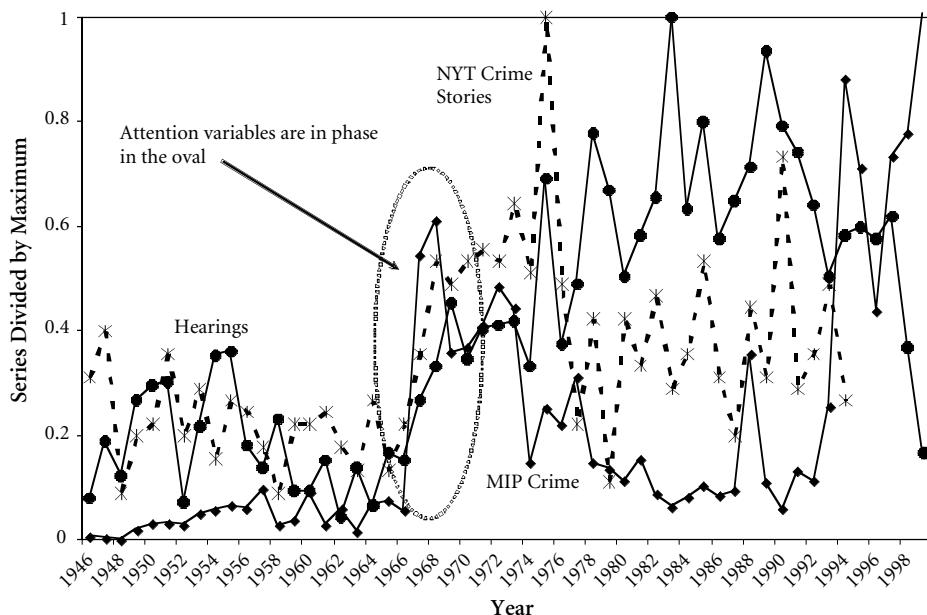


FIGURE 6.1 Positive Feedback Effects in Federal Crime Policy

SOURCE: Bryan D. Jones and Frank R. Baumgartner (2005), Figure 8.6. Calculated from data from the Policy Agendas Project (<http://www.policyagendas.org>).

Americans saying that crime was the most important problem facing the nation (MIP), and congressional hearings on crime and justice. All of this happened as major urban disorders swept many American cities. In the words of John Kingdon, a window of opportunity had opened, and federal crime policy changed in a major way. After 1968, the three trends fell out of focus, going their own ways, and crime policy moved back into the subsystem arena. It is not possible to say which of the three variables was primary; all three were intertwined in a complex positive feedback process. In a classic pattern, public attention to crime jumped, press coverage focused on the problem, and Congress scheduled hearings. The issue left its normal subsystem home, with incremental adjustments, and entered the realm of macropolitics. Congress passed a major law, and spending increased in a major punctuation.

POLICY IMAGES

Policy images are a mixture of empirical information and emotive appeals. Such images are, in effect, information—grist for the policymaking process. The factual content of any policy or program can have many different aspects, and it can

affect different people in different ways. When a single image is widely accepted and generally supportive of the policy, it is usually associated with a successful policy monopoly. When there is disagreement over the proper way to describe or understand a policy, proponents may focus on one set of images while their opponents refer to a different set of images. For example, when the image of civilian nuclear power was associated with economic progress and technical expertise, its policymaking typified a policy monopoly. When opponents raised images of danger and environmental degradation, the nuclear policy monopoly began to collapse (Baumgartner and Jones 1991, 1993, pp. 25–28, 59–82). As we see in the next section, Jones (1994) further emphasized the importance of policy images not only to issue definition and redefinition in policymaking but also to the serial and parallel processes of individual and collective decisionmaking in a democracy.

A new image may attract new participants, and the multiple venues in the American political system constitute multiple opportunities for policy entrepreneurs to advance their cases. Not only do federalism, separation of powers, and jurisdictional overlaps inhibit major changes during periods of negative feedback, but they also mean that a mobilization stymied in one venue may be successful in another. A problem that has not advanced onto the national agenda can sometimes be acted on by the states, and vice versa. The U.S. system of multiple policy venues is an important part of the process of disrupting policy monopolies during periods of positive feedback.

Each institutional venue has its own language, set of participants, and limitations, leading to evolving sets of strategies among those who would try to affect the agenda-setting process. In her pathbreaking study of courts, Vanessa Baird (2006) studies the interaction of justices' priorities, litigant strategies, and agenda setting. Baird wants to know what dynamics underlie the movement of the Supreme Court into areas of policy they had ignored or avoided in the past. The work is exciting because it unifies the strategic concerns of game theory with the dynamics of agenda setting, hence pointing to new possibilities for integration across approaches.

In summary, subsystem politics is the politics of equilibrium—the politics of the policy monopoly, incrementalism, a widely accepted supportive image, and negative feedback. Subsystem decisionmaking is decentralized to the iron triangles and issue networks of specialists in the bureaucracy, legislative subgroups, and interested parties. Established interests tend to dampen departures from inertia (except perhaps for the annual marginal increase in the budget) until a political mobilization, advancement on the governmental agenda, and positive feedback occurs. At that point, issues spill over into the macropolitical system, making possible major change.

Macropolitics is the politics of punctuation—the politics of large-scale change, competing policy images, political manipulation, and positive feedback. Positive feedback exacerbates impulses for change; it overcomes inertia and produces explosions or implosions from former states (Baumgartner and Jones 1991, 1993;

Jones, Baumgartner, and Talbert 1993; Jones 1994; Talbert, Jones, and Baumgartner 1995; Jones, Baumgartner, and True 1996).

Punctuated equilibrium seems to be a general characteristic of policymaking in the United States. Rigorous qualitative and quantitative studies again and again find strong evidence of the process, including studies on regulatory drug review (Ceccoli 2003), environmental policy (Repetto 2006; Busenberg 2004; Wood 2006; Salka 2004), education (Manna 2006; McLendon 2003; Mulholland and Shakespeare 2005; Robinson 2004), firearms control (True and Utter 2002), and regulating state hospital rates (McDonough 1998).

This sweeping depiction of issue dynamics may hide a great deal of variability in the operation of policy subsystems. For example, Worsham (1998) examines three different subsystem types, finding substantial variation in the ability of actors to control attempts to shift conflict from the subsystem level to the macropolitical level by appealing to Congress (see, in addition, McCool 1998). Research using the advocacy coalition approach (Sabatier and Weible, Chapter 7, this volume) has shown that opposing groups can modify certain elements of their belief structures through policy learning born of continual interactions within policy subsystems. This interaction can lead to substantial compromise and important changes in public policy. It is possible that this belief-adjustment process can lead to a dampening down of policy punctuations, as appeals from the disaffected are involved in the policymaking subsystem. In his study of federal land management, Wood (2006) shows that even conflictual subsystems can sometimes avoid disruption through conflict management strategies. More generally, this suggests that institutional arrangements can affect the magnitude of punctuations—a point we return to later in this chapter.

BOUNDEDLY RATIONAL FOUNDATIONS AND THE CENTRALITY OF DECISIONMAKING

Embedded in the punctuated-equilibrium theory of policy change is an implicit theory of individual and collective decisionmaking. From a decisionmaking perspective, large-scale punctuations in policy spring from either a change in preferences or a change in attentiveness. If we regard preferences as relatively stable, how can we explain nonmarginal changes in government policy? Particularly, how can we explain apparent cases of choice reversal when later studies find no large changes in the external environment?

Baumgartner and Jones (1993) explained “bursts” of change and policy punctuations as arising from the interactions of images and institutions. When an agreed-upon image becomes contested, a policy monopoly is usually under attack, and the likelihood grows of a new mobilization (a wave of either criticism or enthusiasm) advancing the issue onto the macropolitical agenda. How can policy images play such a central role in government agenda setting? Part of the answer is found in Jones’s (1994) analysis of serial attention and rational decisionmaking,

both individually and collectively, and part is found in Jones and Baumgartner's (2005) analysis of the disproportionate nature of human individual and collective information processing.

Jones (1994) argued that individual and collective decision changes, including choice reversals, do not spring from rapid flip-flops of preferences or from basic irrationality (choosing to go against our own preferences); they spring from shifts in attention. He called such rapid changes "serial shifts." Individually, our serial attentiveness means that the senses may process information in a parallel way, but attention is given serially to one thing, or at most a few things, at a time (Simon 1977, 1983). This means that although reality may be complex, changing, and multifaceted, we cannot smoothly integrate competing concerns and perspectives. We focus usually on one primary aspect of the choice situation at a time (Simon 1957, 1985; Jones 1994; see also Tversky 1972; Zaller 1992). Collectively, a shift in the object of attention can lead to a disjointed change in preferred alternatives, even when the alternatives are well defined (Jones 1994, 1996).

More generally, bounded rationality undergirds all policy change, because the mechanisms associated with human cognitive architecture are also characteristic of organizations, including governments (Jones 2001). Bounded rationality is the decisionmaking underpinning of both the punctuated-equilibrium and the advocacy coalition approaches, but the theories emphasize different aspects of the process. Punctuated equilibrium is based in serial processing of information and the consequent attention shifts, whereas the advocacy coalition approach traces policy dynamics to the belief systems of coalition participants (Leach and Sabatier 2005).

Bounded rationality was wedded early to incrementalism (Lindblom 1959; Wildavsky 1964), yet incrementalism proved to be, at best, an incomplete explanation of government policymaking and, at worst, a misleading one. The basic problem with incrementalism surfaced when it was tested empirically. For example, when Davis, Dempster, and Wildavsky (1966) made a longitudinal study of bureau-level budget results, they found and reported empirical evidence of both incremental decision rules and two types of nonincremental shifts. The first shift apparently happened when a decision rule was temporarily set aside for a short period (called a deviant case), and the second occurred when a new decision rule was adopted (called a shift point) (pp. 537–542). Except for these punctuations, these authors found support for a relatively incremental view of the budgetary process. The punctuations themselves were excluded from the model, and the authors' conclusions pointed to the significance of finding equations for the budget process and to the central role that the prior-year "base" played in those equations.

Focusing solely on incremental changes caused early behavioral decision theorists to downplay empirical evidence of large-scale change, and it led boundedly rational decisionmaking into a theoretical cul-de-sac. Incrementalism did seem to explain much of what happened in the budgetary process, but it had nothing

to say about major policy changes. Indeed, boundedly rational decisionmaking even had a difficult time determining when changes could no longer be considered incremental (Wanat 1974; Padgett 1980; Berry 1990; Hayes 1992).

With Jones's reconceptualization, however, boundedly rational decisionmaking is a foundation for both major and minor changes—for both punctuations and equilibria. In the case of public policymaking, the twin foundations of conservative and overlapping political institutions and boundedly rational decisionmaking (especially the role of images in dampening or exacerbating mobilizations against entrenched interests) combine to create a system that is both inherently conservative and liable to occasional radical change.

PUNCTUATIONS AND STABILITY IN U.S. GOVERNMENT SPENDING

We have recently extended the punctuated-equilibrium theory to produce an agenda-based model of national budgeting (Jones, Baumgartner, and True 1995, 1996, 1998; True 2000; Jones, Sulkin, and Larsen 2003; Jones and Baumgartner 2005). Its foundation remains the boundedly rational process of human decisionmaking interacting with disaggregated political institutions, specifically serial attentiveness and parallel subsystems. Collectively, government decisionmakers usually process information in a parallel way through subsystems, policy monopolies, iron triangles, and issue networks. When that happens, budgets change only incrementally. However, sometimes issues move from subsystem politics to macropolitics, and national attention in the Congress and in the presidency is, of necessity, given to one or a few high-profile items at a time. In the attention lime-light of the macropolitical institutions, policies and programs can make radical departures from the past, and budgets can lurch into large changes.

National budget decisions are as boundedly rational as the policymaking decisions discussed above. Choice situations are multifaceted, yet decisionmakers tend to understand choices in terms of a circumscribed set of attributes, and they tend to have considerable difficulties making trade-offs among these attributes. If a given policy promotes economic growth but simultaneously has some negative consequences in terms of human rights, one or the other of those competing values may be in the forefront of decisionmakers' attention. If attentiveness to these two dimensions were to shift—say, as a result of scandal or changes in the composition of the group of decisionmakers, as sometimes occurs—then the chosen policy might shift dramatically as well. In general terms, Jones (1996, 2001) noted that decisionmakers tend to stick with a particular decision design (a term that refers to the attributes used in structuring a choice) until forced to reevaluate the decision design.

Budgets react to both endogenous and exogenous forces. The forces that might cause a change in the decision design may be external to the decisionmaker. Such influences may include changing levels of public attention, striking and compelling new information, or turnover in the composition of the decisionmaking

body (for example, when an election changes control of Congress and committee leaderships are rotated from one party to the other). When changing external circumstances force us out of an old decision design, the result is often not a modest adjustment but a major change in choice. Yet subsystem politics and the bureaucratic regularity of annual budget submissions constitute endogenous forces that favor continuing with the same decision design. As a consequence, budget decisions tend either to be static, arrived at by applying the current decision design and subsystem institutions to the new choice situation, or disjointed, arrived at by utilizing a different decision design and macropolitical institutions that may incorporate new attributes into the choice structure or shift attention from one dimension to another. Even these explanations do not exhaust the possible interactions among institutions, images, and the environment, for large changes can also arise from endogenous conflicts over the appropriate image and from shifts in attention when the external circumstances have changed little, if at all.

Because political institutions amplify the tendency toward decisional stasis interspersed with abrupt change (as opposed to smooth, moderate adjustments to changing circumstances), the agenda-based model of policymaking and the serial shift model of decisionmaking together produce a pattern of punctuations and equilibria in the budget processes. As attentiveness shifts to the new aspect or attribute, so, too, do outcomes shift, and this process is often not smooth. Occasionally, in almost every issue area, the usual forces of negative feedback and subsystem maintenance will be replaced by deviation-enhancing, positive feedback forces. Positive feedback leads to episodic and sporadic change (as institutionally induced stability reasserts itself after the punctuation).

Punctuated equilibrium's attention-driven, agenda-based budget model encompasses both periods of punctuation and periods of stability. This view of the budget process leads us to expect that annual budget changes within a given spending category will not be distributed in the normal, bell-shaped curve. Rather, these changes should reflect the nonnormal distributions found in earthquakes and other large interactive systems (see Mandelbrot 1963; Padgett 1980; Midlarsky 1988; Bak and Chen 1991; Peters 1991). The "earthquake" budget model anticipates many minuscule real changes, few moderate changes, and many large changes (Jones, Baumgartner, and True 1996; True 2000).

The model implies that punctuations ought to occur at all levels of policymaking and at all levels of the budget, not to be driven simply by external (exogenous) factors in a top-down manner. This is a consequence of two factors. First, budget decisions are hostage to the statics and dynamics of selective attention to the underlying attributes structuring a political situation. Second, the theory of punctuated policy equilibrium is based in part on a "bottom-up" process in which policy change may occur in isolated subsystems, may spill over into other, related subsystems, or may be affected by exogenous shocks (Jones, Baumgartner, and True 1996, 1998). If punctuations did not occur at all levels of scale in the budget, from the program level to the macropolitical level, and if they did not

occur during all time periods, then we would have to question the application of this theory to budgeting.

Yet, because national budget decisions take place within political institutions, we expect that hierarchy will produce an inequality in the transmission of punctuations from one level to another. This inequality of transmission is connected to the notion of parallel versus serial processing of issues. Both the president and Congress are capable of transmitting top-down budget changes to many agencies at once, and they do so when an issue affecting many agencies or programs reaches the national agenda and is processed serially. Such top-down punctuations from fiscal stress will be more easily transmitted to departments, agencies, and bureaus than bottom-up punctuations can be transmitted upward. The reason is that the insular nature of parallel processing within subsystems damps out the spillover effects among subsystems. As a result, we expect fewer punctuations at the top than at the bottom levels of governmental organization.

PUNCTUATIONS IN PREVIOUS BUDGET THEORIES

Many different models of the policy process have predicted abrupt change, but they have generally postulated exogenous change. In particular, in the empirical and theoretical literature on public budgeting there is ample precedent to expect budget punctuations, beginning as shown above with Davis, Dempster, and Wildavsky (1966). This study focused on the use by decisionmakers of budget decision rules. These rules, understood by participants and offering a stable organizational environment for decisionmaking, were based on the concepts of base and fair share, which led to incrementalism in both process and output. But these authors later added that, "although it is basically incremental, the budget process does respond to the needs of the economy and society, but only after sufficient pressure has built up to cause abrupt changes precipitated by these events" (Davis, Dempster, and Wildavsky 1974, p. 427). Exogenously caused punctuations in budget results are consistent with Ostrom and Marra (1986), Kamlet and Mowery (1987), Kiewiet and McCubbins (1991), and Su, Kamlet, and Mowery (1993).

The "earthquake" budget model departs from all of the cybernetic, optimizing, and adaptive models in emphasizing stasis or large change but not moderate change. The policymaking literature is replete with models of exogenously forced policy change. In addition to the authors cited above, such models are also suggested in the work of comparativists (Krasner 1984) and scholars who study public representation. They see changes in public policy as exogenously driven by changes in public opinion (Stimson, MacKuen, and Erikson 1995) or, alternatively, both by responding to opinion and causing changes in opinion through a thermostat-like device (Wlezien 1995). These models call for punctuations only if there is a change in macrolevel exogenous forces.

Other authors have allowed for complex interactions between endogenous and exogenous budget changes. Kiel and Elliott (1992) approached budgeting from a

perspective of nonlinear dynamics, incorporating both linear and nonlinear processes. They noted the existence of likely nonlinearities in the budgeting process in which "exogenous and endogenous forces simply have varying impacts on budget outlays over time" (p. 143). Nonlinear, interactive processes imply occasional punctuations. Thurmaier (1995) reported the results of experiments in budget scenarios in which decisionmakers shift from economic to political rationales for their decisions after being given new information about political calculations. Such shifts in the bases of decisions can lead to punctuations. True (1995) found that domestic political factors had more influence on spending for national defense than did the dissolution of the Soviet Union. The case for both endogenous and exogenous influences on national budgets seems to be a strong one.

Most modern work in this area (including our own) must reckon with the seminal work of John Padgett (1980, 1981) on budget decisionmaking. Padgett's serial judgment model of the budget process implies "the occasional occurrence of very radical changes" (1980, p. 366). Both Padgett's serial judgment model and our agenda-based approach allow for endogenous mobilizations as well as exogenous shocks. Davis, Dempster, and Wildavsky (1966) suggested only exogenous shocks, but those authors have suggested punctuations in the budget process. The "earthquake" budget model alone, however, ties budget making both to an embedded cognitive decision theory and to an explicit policymaking theory—the punctuated-equilibrium theory of governance.

Following Padgett's lead, our agenda-based budget model assumes that budgeting is a stochastic process. It remains extremely difficult (and perhaps impossible) to specify precise causal linkages among all of the variables that interact nonlinearly or interdependently to produce changes in all of the line items of annual national budgets (especially if, like us, one hopes to do so for the entire postwar period). However, it is possible to develop hypotheses about the distribution of budget changes that can be derived from our agenda-based model and that can be distinguished from previous budgeting models. And that is the strategy we have followed (Jones, Baumgartner, and True 1995, 1996).

Because we expect budgets generally to change very little, but occasionally to change a great deal, we hypothesize that annual budget changes will be distributed leptokurtically. That is, their univariate distribution should have a large, slender, central peak (representing a stability logic), weak shoulders (representing the difficulty in making moderate changes), and big tails (representing episodic punctuations). Note that a normal or Gaussian distribution would be found if continuous dynamic adjustment were the primary decision mechanism (Davis, Dempster, and Wildavsky 1966; Padgett 1980; for a careful examination of univariate distributions, see Johnson, Kotz, and Balakrishnan 1994).

Because we expect the dynamics of budget decisionmaking to occur at all levels, we hypothesize scale invariance. That is, we expect the underlying, non-normal distribution of annual changes to be evident at all levels of aggregation

(program, function, subfunction, and agency). Yet, because we expect changes in budget decisions to be more easily transmitted down the organizational chain than up the chain, we expect that punctuations will be more pronounced at the bottom of the hierarchy than at the top. That is, we expect subfunctions to be more leptokurtic than functions, and functions to be more leptokurtic than higher aggregations.

These expectations diverge from the predictions of other budget and decision models. The boundedly rational models of Davis and colleagues (1966, 1974) explicitly describe the normality of their residual terms. That is, year-to-year changes are usually normally distributed, and after an exogenous factor has caused a shift in parameters, the series will again be modeled with a normal residual term. The “cybernetic” models of Ostrom and Marra (1986), Kamlet and Mowery (1987), or Blais, Blake, and Dion (1993) depend upon the assumption of normality to justify their use of linear regressions and pooled-regression models.

Budget-maximizing models have made few particular predictions in this area (Niskannen 1971), but it is reasonable to expect a normal distribution of first differences from them as well; indeed, most regression analyses and analyses of variance depend upon the central limit theorem for their justification. Maximizing models do not predict punctuations unless there is a shift in exogenous factors, but if such a shift occurs, most maximizing models assume that the accumulation of exogenous factors will asymptotically approach normality.

THE DISTRIBUTION OF BUDGET CHANGES

We first presented tests of this hypothesis in the earlier edition of this book; since then policy process scholars have produced a virtual explosion of work on the distribution of budget changes. To study nonnormal budgetary changes, we developed a new dataset of U.S. budget authority for Office of Management and Budget (OMB) subfunctions from fiscal year 1947 to the present. Budget data present special problems of comparability across time (Baumgartner, Jones, and Wilkerson 2002; Soroka, Wlezien, and McLean 2006), and our dataset was adjusted for these comparability problems. Budget authority, corrected for inflation, is more accurate than appropriations, which can confuse the timing of contract spending and depend upon estimates for trust fund spending. And budget authority is closer to the congressional decisionmaking process than outlay data, which can be delayed for several years after the decision has been made. We constructed the relevant estimates from original contemporary budgets based upon our analysis of current budget categories. We focused primarily on OMB's subfunction level, which divides the twenty core governmental functions into seventy-six groupings based on the national purposes they are supposed to serve. We have focused on the sixty programmatic subfunctions, eliminating sixteen primarily financial subfunctions.

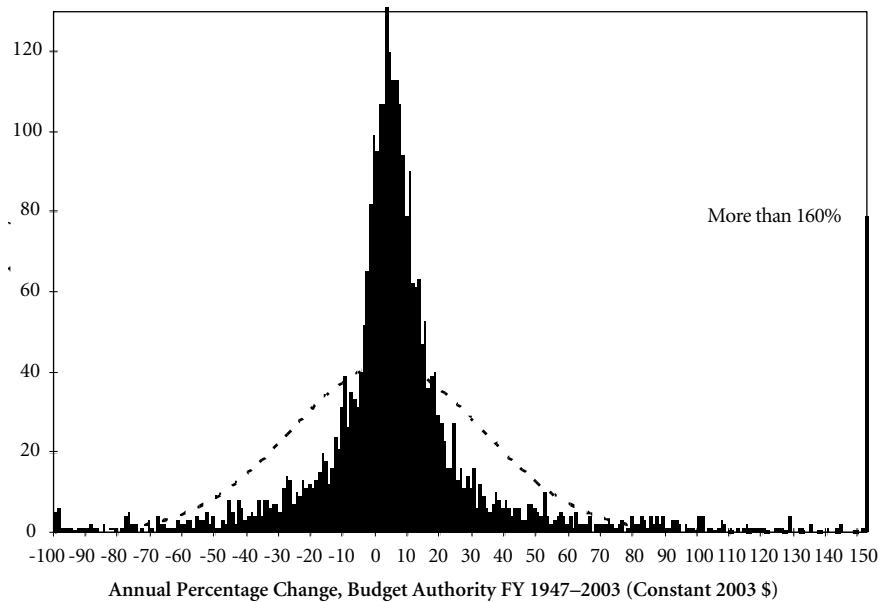


FIGURE 6.2 Annual Percentage Change in U.S. Budget Authority for Office of Management and Budget Programmatic Subfunctions, FY 1947 through FY 2003
SOURCE: Calculated from data made available through the Policy Agendas Project, Center for American Politics and Public Policy, University of Washington (<http://www.policyagendas.org/>).

If we take the annual percentage change for each of the sixty programmatic budget subfunctions from FY 1947 through FY 2003, we get the distribution shown in the histogram in Figure 6.2. The distribution is clearly leptokurtic and positively skewed. Note the very strong central peak, indicating the great number of very small changes, the weak shoulders, indicating fewer than normal moderate changes, and the big tails, indicating more than normal radical departures from the previous year's budget. It diverges widely from a normal curve even when we drop the top 5 percent of the outliers when computing the normal curve.²

The distribution of annual changes in budget authority is consistent with the "earthquake" budget model (as called for by the punctuated-equilibrium theory), but not with incremental theories. Both rely on bounded rationality, and our approach may be viewed as adding agenda-setting and attention allocation to the incrementalist models. That is, the incrementalist models were not far wrong; the central peak of budget change distributions indicates that they are virtually unchanging and hence may be viewed as incremental. But the incremental theories missed the manner in which attention allocation disrupts "normal" budgeting, which punctuated equilibrium incorporates.

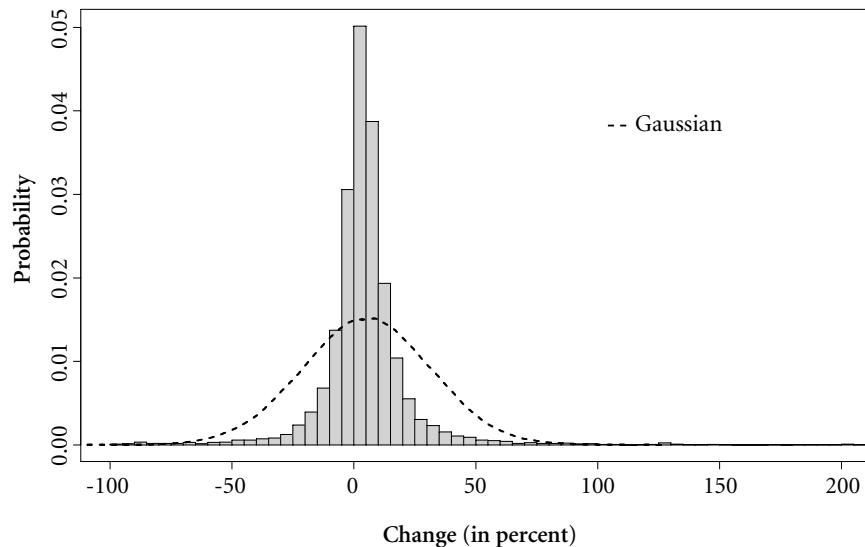


FIGURE 6.3 Annual Percentage Change in U.S. Budget Authority for American States, Aggregated across Budget Categories, 1984–2002.

SOURCE: Christian Breunig and Chris Koske, *Punctuated Equilibrium in the American States*.

How general is the finding of punctuated, non-incremental budgeting? So far, every study examining public budgets has found this pattern. Jordan (2003) finds punctuated budget change distributions for U.S. local expenditures, Robinson (2004), for Texas school districts, Breunig and Koske (2005), for state budgets, and Jones and Baumgartner (2005), for U.S. national outlays since 1800. The pattern also emerges in other countries, including the United Kingdom (John and Margetts 2003; Soroka, Wlezien, and McLean 2006), Denmark (Breunig 2006; Mortensen 2005), Germany (Breunig 2006), France (Baumgartner, François, and Foucault 2006), and Belgium (Walgrave 2005). Figure 6.3, reproduced from the work of Breunig and Koske (2005), shows the distribution of budgets in states; in its basics, it closely resembles Figure 6.1.

The pattern persists in centralized democracies as well as more pluralistic ones such as the United States. Figure 6.4 shows the distribution of annual changes in ministerial funding in France, and it closely resembles Figure 6.2 as well. This suggests that we need a broader theory of how policy punctuations occur, one that is not so tightly tied to pluralistic forms of government. It is likely that different systems lead to different intensities in punctuations yet don't escape the process—because it is rooted in the capacities of government to process information and allocate attention. We discuss this in more detail below.

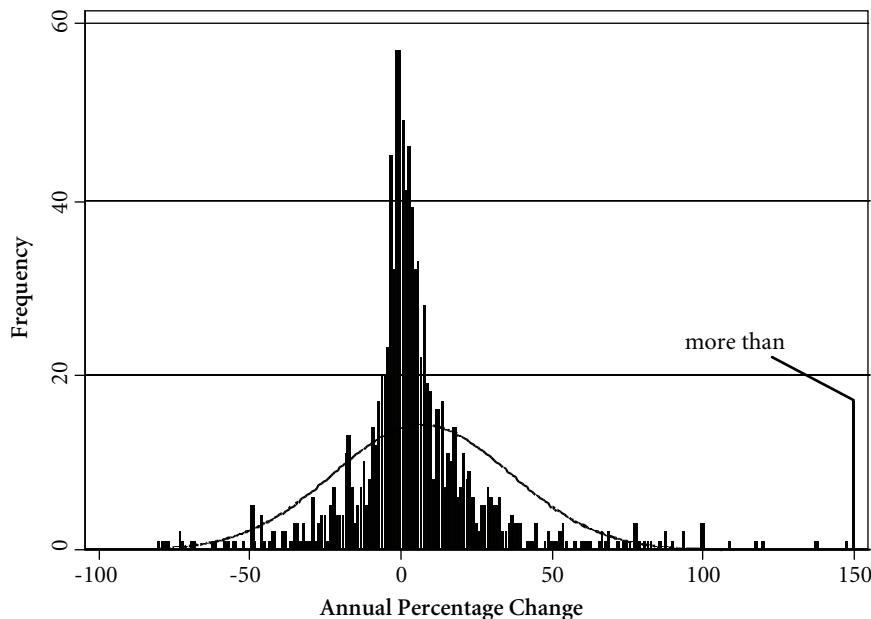


FIGURE 6.4 Distribution of Annual Percentage Changes for Ten French Ministerial Budgets, 1868–2002.

SOURCE: Baumgartner, Foucault, and François, 2006.

HOW GENERAL IS PUNCTUATED EQUILIBRIUM?

The punctuated-equilibrium model was originally developed to understand the dynamics of policy change in subsystems, but it has been extended to a more general formulation of punctuated change in policymaking. We have described above the first tests of this more general formulation in the study of public budgeting. This testing has resulted in new insights into the process, including (1) an elaboration of an agenda-based, attention-driven budgeting model; (2) the generation of hypotheses concerning the distribution of annual budget changes and its underlying structure; and (3) empirical evidence that conforms to the new theory but that is antithetical to the normal changes expected from incremental theory or from most other budget theories. Punctuated equilibrium, rather than incrementalism alone, characterizes national budgeting in America and elsewhere, just as punctuated equilibrium, rather than gridlock or marginalism, characterizes overall policymaking in the American political system.

Founded on the bounded rationality of human decisionmaking and on the nature of government institutions, punctuated equilibrium can make a strong claim that its propositions closely accord with what we have observed about U.S.

national policymaking. But how general are these dynamics? Do they hold across political systems? The ubiquity of serial attentiveness and organizational routines of operation lead us to expect that stability and punctuations are a feature of policymaking in many governments. At the same time, the institutional aspect of multiple venues interacts with boundedly rational decisionmaking to make punctuated-equilibrium theory particularly apt for relatively open democracies. An important component of the initial formulation of the theory is the multiple policymaking venues of American pluralism. The key questions are whether policy subsystems develop enough autonomy in other political systems to allow for independence from the central government, and whether shifts in attention can act to change policymaking in those subsystems. It is likely that the general process of stability enforced by organizational routines interrupted by bursts of activity due to shifts in collective attention are general ones, but that these processes are mediated by political institutions.

Where multiple venues occur as a consequence of institutional design, such as in federal systems, one would expect the dynamics of punctuated equilibrium to emerge. In the U.S. Congress, committeees are the linchpin of policy subsystems. There, overlapping committee jurisdictions offer opportunities for issue entrepreneurs to change jurisdictions by emphasizing particular issue characterizations (Baumgartner, Jones, and McLeod 2000). To what extent does this kind of dynamic extend beyond U.S. policymaking organizations? Adam Sheingate (2000) has used the basic punctuated-equilibrium concepts of policy image and venue shopping to study changes in agriculture policy in the European Union and the United States, and Sarah Pralle (2003) studied the exploitation of policy venues in forest policy in Canada and the United States by environmental groups. These systems have the requisite elements of openness and multiple venues. In the case of the European Union, the emergence of a strong central government from what previously were fully independent governments has offered students of public policy processes the opportunity to observe the effects of new venues in policy change. Princen and Rhinhard (2006, p. 1) write that "agenda setting in the EU takes place in two ways: 'from above,' through high-level political institutions urging EU action, and 'from below,' through policy experts formulating specific proposals in low-level groups and working parties." That is, the EU has evolved into a set of policy subsystems that are important in making policy, but there are also macrolevel policymaking forces at play.

These interacting venues operate in many ways similarly to the pluralistic policymaking system in the United States (Guiraudon 2000a, 2003; Wendon 1998; Mazey 1998; Mazey and Richardson 2001). Cichowski (2006) studied how women's groups and environmental groups are utilizing EU-level opportunity structures by bringing litigation before the European Court of Justice and engaging in transnational mobilization and organization in Brussels to participate in policy making. But such venue shopping does not always aid disadvantaged groups. Guiraudon (2000a, 2000b) shows in a study of immigration policy in

France, Germany and the Netherlands, and the European Union that simple expansion of the debate—for example, to the electoral arena—does not necessarily benefit the disadvantaged, as Schattschneider originally suggested. Losing in a narrow venue does not mean winning in a broader one; it could instead invite even bigger losses. Moreover, when immigration rights organizations won victories in national courts, conservatives on the issue were able to appeal to the EU and blunt their victories (see also Givens and Ludke 2004). The whole process of conflict expansion and venue shopping is more dynamic and uncertain than early conflict expansion literature suggested.

If policymaking devolves to experts in all systems, then a key question is the extent to which the subsystem always dominates politics or whether at times the issue spills over into the broader macropolitical arena. Timmermans and Scholten (2006) suggest that, even in the technical arena of science policy in a smaller European parliamentary system—the Netherlands—this does occur, and again the dynamics are roughly similar to those highlighted in the American version of the punctuated-equilibrium model. In a study of immigration policy, Scholten and Timmermans (2004) show that immigration policy is punctuated but is damped down through the implementation process at the local level.

Punctuated-type dynamics also occur in other European countries. Maesschalck (2002), in a study of a major police failure in Belgium in the Dutroux scandal, shows that policymaking generated by scandal follows a conflict expansion model consistent with the punctuated-equilibrium approach. This finding is no fluke. In a comprehensive study of Belgian public policy processes during the 1990s, Walgrave, Varone, and Dumont (2006) directly compare the party model with the issue expansion model. They note the ability of the Dutroux and other scandals to destabilize the system, basically disrupting the party-dominated policymaking system with highly emotive information that political elites cannot afford to ignore. Similarly, Peter John (2006a) finds that the interaction of media coverage and events is more important in explaining major changes in budget commitment for urban affairs in the United Kingdom than changes in party control.³

Cross-country studies of issue expansion offer the opportunity to examine how different institutional arrangements—that is, variation in the nature of political venues—affect the course of public policy. Timmermans examined cases of biomedical policy in four countries (Canada, the Netherlands, the United Kingdom, and Switzerland), finding that variation in arenas both at the macropolitical and policy subsystem levels had major effects on the tempo of agenda dynamics. Even where policy dynamics are broadly similar, as they seem to be in European democracies, the specific paths of policy development can be highly varied because of the operation of policy venues, in particular, their interconnectedness with each other and with macropolitical forces.

This line of research implies that it will be critical in the future to pin down the particular dynamics that lead to roughly similar policymaking patterns. We can

only understand how institutional differences channel policymaking activities by the kind of comparative studies that these papers represent.

QUANTITATIVE COMPARATIVE STUDIES OF POLICY DYNAMICS

In this enterprise, we need the qualitative studies of Pralle (2003), Princen and Rhinhard (2006), and Timmermans and Scholten (2006) as well as quantitative studies capable of tracing policy changes across longer periods of time. For the United States, the Policy Agendas Project, housed at the University of Washington and Pennsylvania State University and funded by the National Science Foundation, is providing this resource (see <http://www.policyagendas.org/>). Several important database development projects are becoming available to just this kind of analysis, including one in Denmark under the direction of Christoffer Green-Pederson of the University of Aarhus (<http://www.ps.au.dk/greenp/Research/Agenda.htm>); Stuart Soroka and Chris Wlezien's work on Canada and the United Kingdom (<http://www.degreesofdemocracy.mcgill.ca/>), and Steffan Walgrave's work on Belgium (<http://www.ua.ac.be/main.aspx?c=m2p>). At the American state level, Joseph McLaughlin of Temple University is developing a policy dynamics-style database system for the state of Pennsylvania (http://www.temple.edu/ipa/Research/Policy_Agendas.asp). The Pennsylvania project also has a practical side: the system is being adopted by the state as an archiving tool.

We've already noted the importance of these databases in the study of public budgeting, but they are critical in tracing changes in policy images and outputs over time. In Denmark, Christoffer Green-Pederson and his collaborators have traced the comparative policy dynamics of issues in more than one country, including tobacco policy in Denmark and the United States (Albaek, Green-Pederson, and Neilson 2005), euthanasia in Denmark, Belgium, and the Netherlands (Green-Pederson 2004), and health care in Denmark and the United States (Green-Pederson and Wilkerson 2006). In Canada, Stuart Soroka and his research team have used parliamentary question periods as prime indicators of agenda setting and conflict expansion, and have examined in detail the relative roles of public opinion and the media in the agenda-setting process (Soroka 2002; Penner, Blidock, and Soroka 2006). The mechanisms of issue expansion and policy development are broadly similar in different democratic political systems, even though they may play out differently as they are channeled through different decisionmaking institutions.

But there is a further complication. Part of any differences in policies between countries may be attributed to differences in the mobilization of actors and the subsequent timing and sequencing of events. Consequently, even differences in policies between countries cannot necessarily be attributed to differences in institutions, as Pralle (2006) has shown in a case study of lawn pesticide policy in Canada and the United States. Jumping to the conclusion that Canada provides a

more receptive venue for pesticide regulation might not be warranted without a study of the dynamics of political choice.

Finally, the punctuated-equilibrium model is proving useful in understanding relations among nations, such as in protracted interstate rivalries (Cioffi-Revilla, 1997), the role of norms in international politics (Goertz 2003), and agenda setting in global disease control (Shiftman 2003; Shiftman, Beer, and Wu 2002). The latter study compared three models of policymaking—the incrementalist, the rationalist, and punctuated equilibrium, “a more complex pattern in which interventions are available only to select populations, punctuated with bursts of attention as these interventions spread across the globe in concentrated periods of time” (Shiftman, Beer, and Wu 2002, p. 225).

The Goertz work is particularly important because its analysis is based in organizational analysis, the general basis for punctuated equilibrium in U.S. domestic policies. Goertz focuses on the development and change of organizational routines as critical in governing relations among nations. As in the case of comparative politics, it is critical in the future to begin to understand which aspects of policymaking are due to more general dynamics based in human cognition and organizational behavior and which are due to the particulars of the institutions under study. Such considerations move us beyond the confines of theories for institutions and toward a more general theory of the interaction of humans in organizations.

THE GENERAL PUNCTUATION HYPOTHESIS

Punctuated equilibrium in policy studies applies to a particular situation—where political conflict is expanded beyond the confines of expert-dominated policy subsystems to other policymaking venues. It relies on the mechanism of policy image—the manner in which a policy is characterized or understood—and a system of partially independent institutional venues within which policy can be made. The general punctuation hypothesis generalizes this basic framework to situations in which information flows into a policymaking system, and the system, acting on these signals from its environment, attends to the problem and acts to alleviate it, if necessary (Jones, Sulkin, and Larsen 2003; Jones and Baumgartner 2005).

This translation is not smooth, however, because decisionmaking activities are subject to decision and transaction costs. These are costs that policymakers incur in the very process of making a decision. Participants in a policymaking system must overcome these costs to respond to the signals from the environment, which themselves are uncertain and ambiguous. There are two major sources of costs in translating inputs into policy outputs. The first consists of cognitive costs: political actors must recognize the signal, devote attention to it, frame the problem, and devise solutions for it. The second source consists of institutional costs: the rules for making policy generally act to maintain stability and incrementalism.

In the case of U.S. national institutions, constitutional requirements of super-majorities to pass legislation mean that policy outputs will be more punctuated than the information coming into government. In stochastic process terms, outputs are more leptokurtic than inputs. Since it should be easier for an issue to gain access to the governmental agenda than to stimulate final policy action, agenda-setting policy distributions should be less leptokurtic and more similar to a normal distribution than output distributions. Jones, Sulkin, and Larsen (2003; see also Jones and Baumgartner 2005) report that a variety of agenda-setting measures, such as congressional hearings, newspaper coverage, and congressional bill introductions, are less leptokurtic than any of several output distributions, such as public laws and public budgets. Outputs are more punctuated, characterized by stability interspersed by bursts of activity, than agenda-setting distributions.

Policymaking institutions seem to add friction to the process of translating inputs into policy outputs. This friction acts to delay action on issues until enough pressure develops to overcome this institutional resistance. Then there is a lurch or punctuation in policymaking. Friction, which leads to punctuated dynamics, rather than institutional gridlock characterizes American national political institutions. Furthermore, this framework may prove useful in understanding differences among political systems, which, after all, add friction to the policymaking process in different ways. Some social movement theorists have critiqued policy process approaches as too narrow, but they do stress issue dynamics (Kenny 2003). A more general formulation may lead to grappling with how one might integrate the voluminous work on social movements with punctuated change within institutional frameworks.

INFORMATION PROCESSING

With its foundations in both political institutions and boundedly rational decisionmaking, punctuated-equilibrium theory is at base a theory of organizational information processing. Governments are complex organizations that act on the flow of information in producing public policies. The manner in which public policy adjusts to these information flows determines the extent of bursts of activity in the system. The general punctuation hypothesis suggests that information processing is disproportionate. That is, policymaking alternates between periods of underreaction to the flow of information coming in to the system from the environment and overreaction to it (Jones and Baumgartner 2005; Wood and Peake 1998). This reaction may stem from a vivid event that symbolizes everything that is wrong (Birkland 1997), or from the accumulation of problems over longer periods of time. In either case, how the policymaking system allocates attention to the problem is a critical component of problem recognition and subsequent policy action, but so are the institutional arrangements responsible for policymaking.

One would expect a policymaking system, then, to be more subject to punctuations when it is less able to adjust to the changing circumstances it faces. Indeed, Jones and Baumgartner (2005) show that a perfect pattern of adjustment to a

complex, multifaceted environment in which multiple informational input flows are processed by a political system will yield a normal distribution of output changes. As a consequence, the extent of the adjustment of a policy system may be gauged by a comparison of its distribution of policy outputs with the normal curve. In an important sense, the more normally public policy changes are distributed, the better the policymaking system is performing (in the sense of efficient adjustment to environmental demands).

Using this framework, Robinson (2004) finds that more bureaucratic school systems better adjust their expenditures to fiscal reality than do less bureaucratic ones—presumably because bureaucracy enhances information acquisition and processing. Breunig and Koske (2005) find that states with stronger chief executives are subject to attenuated budgetary punctuations, and Berkman and Reenock (2004) show that incremental adjustments in state administrative reorganizations can obviate the need for sweeping reorganizations in the future. Chan (2006), however, reports results on administrative changes in Hong Kong that are very much in keeping with punctuated dynamics.

Complex interactions, however, cannot be confined to activity within fixed institutional frameworks. It must be the case that the entire policymaking system can evolve; the pieces of the system, in effect, can feed back into the whole, actually changing the decisionmaking structure that acted as policy venues in the first place. Richardson (2000) argues that this is happening in European policymaking at the present time. This sort of very difficult dynamics is only now being explored, but the framework we've set forth in this chapter can serve as a starting point for a problem only amenable when policymaking is viewed as a complex, evolving system.

CONCLUDING COMMENTS

The initial theory of punctuated equilibrium in policy processes is applicable to the dynamics of the specialized politics of policy subsystems. It has proved useful enough that scholars have employed it to understand a variety of policymaking situations in the United States and abroad. It has proved robust enough to survive several rigorous quantitative and qualitative tests. It has spawned a new approach to the study of public budgeting based in stochastic processes, and it hence has satisfied the criterion that any theory not only be verifiable but also fruitful in suggesting new lines of inquiry.

It has also led to considerable discussion among policy practitioners. In his call to action on environmental change, *Red Sky at Morning*, Gustave Speth (2004) cites punctuated-equilibrium theory as a policy analysis that can lead to rapid, correcting change in the face of accumulating factual evidence. *Theories of the Policy Process* is directed at supplying better theory in the study of policy processes, and better applied work on policy change will occur with better theory; indeed, there is no substitute for this.

The formulation of the theory in stochastic process terms has made it possible to compare policy process theories with general formulations of human dynamic processes. Punctuated dynamics, where any activity consists of long periods of stability interspersed with bursts of frenetic activity, may be the general case in human systems. For example, Barabasi (2005) shows that when humans prioritize incoming information for action, the distribution of waiting times for action on the information is “heavy tailed”—that is, leptokurtic. When prioritization is not practiced but, rather, inputs are subject to random choice for processing, the distribution is not fat tailed.⁴ The policy processes we study fundamentally involve prioritization, although they are much more complex processes than Barabasi’s waiting time studies. Perhaps the key to these distributional similarities is in setting priorities. If so, then punctuated dynamics may be a direct consequence of *disproportionate information processing*, in which people and the organizations they inhabit struggle to prioritize informational signals from the environment within a particular institutional frame or structure (Jones and Baumgartner 2005).

The utility of punctuated-equilibrium theory and its agreement with what is observed come at a price. The complexity and changing interactions of the American policy process mean that accurate policy predictions will be limited to the system level. Specific predictions about policy outcomes will be possible only to the extent that we are able to avoid positive feedback and punctuations when we choose areas and periods for study, or we limit our “predictions” to what we can know after the fact were successful mobilizations. Nonlinearity, nonnormality, interdependencies, and high levels of aggregation for empirical data mean that clear causal chains and precise predictions will work only in some cases and for some times. Because stasis characterizes most of the cases and most of the times, scholars may be convinced that they have a good working model of the process. But a complete model will not be locally predictable, since we cannot foresee the timing or the outcomes of the punctuations. What will cause the next big shift in attention, change in dimension, or new frame of reference? Immersion in a policy or issue area may lead to inferences about pressures for change, but when will the next attention shift occur in a particular policy area? At the systems level, punctuated equilibrium, as a theory, leads us to expect that some policy punctuation is under way almost all of the time. And the theory joins institutional settings and decisionmaking processes to predict that the magnitude of local changes will be related to their systems-level frequency of occurrence. Punctuated-equilibrium theory predicts a form of systems-level stability, but it will not help us make point-specific predictions for particular policy issues.

We can have a systems-level model of the policy process even without an individual-level model for each policy. Linear predictions about the details of future policies will fail each time they meet an unforeseen punctuation; they will succeed as long as the parameters of the test coincide with periods of equilibrium. This limitation means that it will be tempting to offer models applicable only to the more easily testable and confirmable periods of relative

stability. In our view, a clearer, more complete, and more empirically accurate theoretical lens is that of punctuated equilibrium.

Moreover the very fruitfulness of the approach and the seeming ubiquity of punctuated-type dynamics in human behavior mean that what was a reasonably tight policy process theory has become somewhat more vague in empirical referent as it has become more general. The information-processing approach is less a theory and more a framework than the earlier punctuated-equilibrium formulation. Since the ultimate aim of the scholarly enterprise is understanding, and since punctuated-equilibrium theory has energized new policy research here and overseas, this is a small cost to pay indeed.

NOTES

1. Punctuated equilibrium was first advanced as an explanation of the development of differences among species, or speciation (Eldridge and Gould 1972; Raup 1991). Rather than changing smoothly and slowly as in the later Darwinian models, evolution and speciation were better characterized as a near stasis punctuated by large-scale extinctions and replacements. For example, there was a virtual explosion of diversity of life in the Pre-Cambrian Period, an explosion that has never been repeated on such an immense scale (Gould 1989). The notion has been vigorously contested by evolutionary biologists, who claim that disconnects in evolution are not possible (although variations in the pace of evolution clearly are) (Dawkins 1996). Interestingly, some of these scholars have argued that consciousness makes possible punctuations in human cultural evolution; what cannot occur via genes can occur via memes (Dawkins's term for the transmitters of cultural adaptive advantage) (Dawkins 1989; see also Boyd and Richerson 1985).

2. Whether we plot percentage changes, first differences, or changes in logged data, the distributions are leptokurtic and not normal. When we compare annual changes in budget authority for functions and subfunctions, the characteristic leptokurtosis remains, although the subfunctions are more leptokurtic than the functions. When we plot the distribution of annual changes by agency, leptokurtosis remains. We examined plots of the following: subfunction budget outlay data, 1962–1994; subfunction budget authority data, 1976–1994; and agency-level budget authority data, 1976–1994. All exhibited leptokurtosis.

3. Punctuated equilibrium has also proved useful in understanding stability and change in British trunk roads policy (Dudley and Richardson 1996).

4. Prioritization results in a Pareto distribution of waiting times, whereas random processing results in an exponential distribution (Barabasi 2005).

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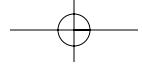
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7

The Advocacy Coalition Framework**Innovations and Clarifications**

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The Advocacy Coalition Framework (ACF) is a framework of the policy process developed by Sabatier and Jenkins-Smith to deal with “wicked” problems—those involving substantial goal conflicts, important technical disputes, and multiple actors from several levels of government (Hoppe and Peterse 1993). It arose out of Sabatier’s decade-long experience with the implementation literature and both authors’ interest in understanding the role that technical information plays in the policy process (Sabatier 1986; Jenkins-Smith 1990; Sabatier and Jenkins-Smith 1988).

The ACF was originally published as a symposium issue of *Policy Sciences* (Sabatier and Jenkins-Smith, 1988). It was revised somewhat in 1993 as a result of six case studies solicited by the authors (Sabatier and Jenkins-Smith, 1993). The early research dealt primarily with U.S. energy and environmental policy, the authors’ fields of expertise.

During the 1990s, the empirical base of the ACF became much broader in terms of investigators, political systems, and policy domains. By 1998–1999, of thirty-four published case studies dealing with the ACF, six were by the authors and their students, eight were by other scholars but solicited by the authors, and twenty were by other scholars at their own initiative (Sabatier and Jenkins-Smith 1999, 126)¹. Of the twenty applications by other scholars, fifteen were conducted by Europeans and Canadians, while eight dealt with policy areas other than energy or the environment (Sabatier and Jenkins-Smith 1999, 126).

Since the 1998–1999 tally, there have been at least fifty-four additional ACF case studies (see Appendices 7.1 and 7.2) and even more publications. Of the case studies, five have been by the original authors or their students and have involved environmental or energy policy in the U.S. Most applications of the ACF have been in Europe ($n = 19$) and the U.S. ($n = 14$), but a few researchers have also applied the ACF to policy issues in Asia, Africa, Australia, South America, and Canada. Four studies have applied the ACF on a global scale or comparatively across multiple countries. Of the fifty-four cases since 1998–1999, twenty-six have dealt with environmental or energy policy, while twenty-eight have dealt with economic or social issues, such as taxation, public health, drugs, culture, education, sport, and domestic violence.

This increasing scope of application for the ACF has led to significant revisions of the framework. For example, many Europeans and Canadians have questioned the ACF's pluralist assumptions derived from its birth in the American policy literature (Parsons 1995; Howlett and Ramesh 1995; Lijphart 1999). In response, we have revised the ACF to deal explicitly with European corporatist regimes and the authoritarian executive regimes in many developing countries.

Given the number and diversity of ACF applications, a complete review of this work is beyond the scope of this chapter. Instead, we intend to synthesize much of this research into a set of recent innovations and clarifications to the ACF. This chapter will first present an abbreviated version of the 1999 edition of the ACF. As a preview, Figure 7.1 presents an overview of the role of advocacy coalitions within the policy subsystem and the effects of two sets of factors exogenous to the subsystem that affect the constraints and opportunities affecting subsystem actors over time. This figure has been the core conceptual characterization of the ACF since its inception.

The bulk of the chapter will present three rather important revisions (largely additions) to the 1999 framework:

Filling in the “resources and constraint box” in Figure 7.1 by incorporating a set of “coalition opportunity structures” that mediate how “stable system parameters” affect coalition behavior.

Filling in the “resources” box in Figure 7.1 by specifying a set of coalition resources and some relevant hypotheses.

Adding two more paths of policy change to the ACF's original hypothesis that major policy change requires a shock exogenous to the subsystem:

- A. an internal shock path
- B. a negotiated agreement path

Throughout this chapter, we shall also clarify key concepts and causal processes, particularly with respect to policy subsystems, the devil shift, and coalition membership. We conclude with a summary of some of the limitations of the ACF and important questions for future research.

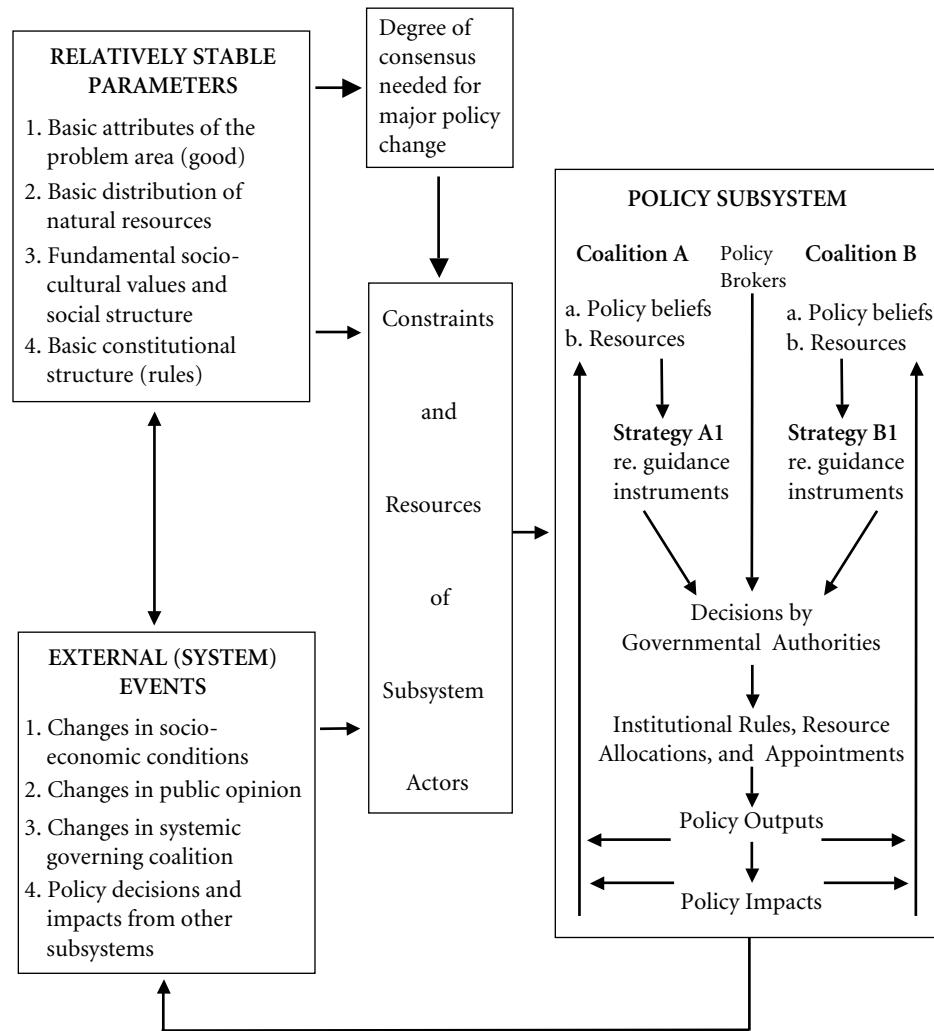


FIGURE 7.1 1998 Diagram of the Advocacy Coalition Framework

AN OVERVIEW OF THE ACF (CIRCA 1999)

The ACF starts with three “foundation stones”: (1) a macro-level assumption that most policymaking occurs among specialists within a policy subsystem but that their behavior is affected by factors in the broader political and socioeconomic system; (2) a micro-level “model of the individual” that is drawn heavily

from social psychology; and (3) a meso-level conviction that the best way to deal with the multiplicity of actors in a subsystem is to aggregate them into “advocacy coalitions.” These foundations, in turn, affect our dependent variables, belief and policy change, through two critical paths: policy-oriented learning and external perturbations.

Foundations

Policy Subsystem and External Factors. The ACF assumes that policymaking in modern societies is so complex, both substantively and legally, that participants must specialize if they are to have any hope of being influential. This specialization occurs within policy subsystems composed of participants who regularly seek to influence policy within a policy subsystem, such as California water policy. A subsystem is characterized by both a functional/substantive dimension (e.g., water policy) and a territorial one (e.g., California) (Zafonte and Sabatier 1998). The set of policy participants includes not only the traditional “iron triangle” of legislators, agency officials, and interest group leaders, but also researchers and journalists who specialize in that policy area (Heclo 1978; Kingdon 1995) and judicial officials who regularly intervene in a policy subsystem². The ACF assumes that policy participants hold strong beliefs and are motivated to translate those beliefs into actual policy. Because the ACF assumes that scientific and technical information plays an important role in modifying the beliefs of policy participants, it correspondingly assumes that researchers (university scientists, policy analysts, consultants, etc.) are among the central players in a policy process. Since the 1998–1999 ACF rendition, studies have continued to indicate that researchers play an active role in policymaking processes (Herron et al. 2006; Zafonte and Sabatier 2004; Meijerink 2005; Weible 2005).

The ACF is interested in policy change over a decade or more. It also assumes that the beliefs of policy participants are very stable over such a period and make major policy change very difficult. It thus distinguishes mature policy subsystems from nascent ones. Mature policy subsystems are characterized by (Sabatier and Jenkins-Smith 1999, 135–136):

- a set of participants who regard themselves as a semi-autonomous community who share an expertise in a policy domain and who have sought to influence public policy in that domain for an extended period
- agencies, interest groups, and research institutions that have had sub-units specializing in that topic for an extended period³.

In most Organization for Economic Cooperation and Development (OECD) countries, most policy subsystems have been in existence for decades and are thus quite mature. However, 30 years ago, subsystems dealing with environmental and consumer protection were quite young. Furthermore, in developing

countries, many subsystems are quite nascent because of the instability of the broader political system and the lack of trained personnel in the subsystem. For an excellent example, see Beverwijk's (2005) book on higher education in Mozambique.

Delimiting the appropriate scope for a subsystem is also complicated by the existence of overlapping and nested subsystems. A local housing agency, for example, is part of a local housing subsystem. But it also overlaps with local land use and transportation subsystems and is nested within state and federal housing policy subsystems. The situation is particularly complicated when dealing with international treaties, which automatically add an international level that has very limited authority to impose its wishes on national and subnational units. For an excellent example of nested subsystems involving climate change, see Sewell (2005).

Identifying the appropriate scope of a subsystem is one of the most important aspects of an ACF research project. The fundamental rule should be: "Focus on the substantive and geographic scope of the institutions that structure interaction." For example, when Zafonte and Sabatier (2004) were trying to decide if an automotive pollution control subsystem existed in the U.S. largely independent of a broader air pollution control subsystem, they found that automotive pollution had its separate title in the Clean Air Act, a very large subbureau within the U.S. EPA, a very large subunit within the California Air Resources Board, very different interest groups on the industry side and somewhat different groups on the environmental side, a quite distinct research community, and a quite different policy community in general. Thus, they felt quite justified in making U.S. automotive pollution control a subsystem separate from the larger U.S. air pollution control subsystem.

The vast majority of policymaking occurs within policy subsystems and involves negotiations among specialists. The behavior of policy participants within the subsystem is, however, affected by two sets of exogenous factors, one fairly stable and the other quite dynamic (see Figure 7.1). The relatively stable parameters include basic attributes of the problem (e.g., the difference between groundwater and surface water), the basic distribution of natural resources, fundamental sociocultural values and structure, and basic constitutional structure. These stable exogenous external factors rarely change within periods of a decade or so, thus rarely providing the impetus for behavioral or policy change within a policy subsystem. They are, however, very important in establishing the resources and constraints within which subsystem actors must operate. The dynamic external factors include changes in socioeconomic conditions, changes in the governing coalition, and policy decisions from other subsystems. These also affect the behavior of subsystem actors, but their ability to change substantially over periods of a decade or so make them critical factors in affecting major policy change. In fact, the ACF hypothesizes that change in one of these dynamic factors is a necessary condition for major policy change. See Kübler (2001) for a very interesting example involving Swiss drug policy.

The Model of the Individual and Belief Systems. The ACF differs from rational choice frameworks primarily in its model of the individual (Sabatier and Schlager 2000; Schlager 1995). While rational choice frameworks assume self-interested actors rationally pursuing relatively simple material interests, the ACF assumes that normative beliefs must be empirically ascertained and does not a priori preclude the possibility of altruistic behavior. In fact, following March and Olsen (1996) the ACF recognizes two systems of normative reasoning: a "logic of appropriateness," in which right behavior means following rules, and "a logic of consequences," in which right behavior involves maximizing good consequences⁴. It's the classic conflict between sociologists and economists. Because each logic starts from fundamentally different premises, this is one more factor to exacerbate compromise.

The ACF stresses the difficulty of changing normative beliefs and the tendency for actors to relate to the world through a set of perceptual filters composed of preexisting beliefs that are difficult to alter (Lord, Ross, and Lepper 1979; Munro and Ditto 1997; Munro et al. 2002). Thus, actors from different coalitions are likely to perceive the same information in very different ways, leading to distrust. The ACF also borrows a key proposition from prospect theory (Quattrone and Tversky 1988: actors value losses more than gains. The implication is that individuals remember defeats more than victories. These propositions interact to produce "the devil shift," the tendency for actors to view their opponents as less trustworthy, more evil, and more powerful than they probably are (Sabatier, Hunter, and McLaughlin 1987; Sabatier and Jenkins-Smith 1999). This in turn increases the density of ties to members within the same coalitions and exacerbates conflict across competing coalitions. Perceptual filters also tend to screen out dissonant information and reaffirm conforming information, thus making belief change quite difficult. The ACF's model of the individual is well-suited to explain the escalation and continuation of policy conflict. As we shall see shortly, it requires further modification to account for deescalation and agreement.

Following the belief system literature of policy participants (March and Simon 1958; Putnam 1976; Peffley and Hurwitz 1985), the ACF conceptualizes a three-tiered hierarchical structure⁵. At the broadest level are deep core beliefs, which span most policy subsystems. Deep core beliefs involve very general normative and ontological assumptions about human nature, the relative priority of fundamental values such as liberty and equality, the relative priority of the welfare of different groups, the proper role of government vs. markets in general, and about who should participate in governmental decisionmaking. The traditional left/right scales operate at the deep core level. Deep core beliefs are largely the product of childhood socialization and, thus, very difficult to change.

At the next level are policy core beliefs. These are applications of deep core beliefs that span an entire policy subsystem (e.g., California water policy). Sabatier and Jenkins-Smith (1999) define eleven components of policy core beliefs

including the priority of different policy-related values, whose welfare counts, the relative authority of governments and markets, the proper roles of the general public, elected officials, civil servants, experts, and the relative seriousness and causes of policy problems in the subsystem as a whole. The general assumption is that policy participants are very knowledgeable about relationships within their policy subsystem and thus may be willing to invest the effort to apply certain deep core beliefs to develop policy core beliefs in that subsystem. However, there is not always a one-to-one correspondence between deep core beliefs and policy core beliefs. For example, while conservatives generally have a strong preference for market solutions, some of them recognize significant market failure (e.g., externalities) in water pollution problems and thus are willing to support much more governmental intervention in this policy area compared with other policy areas. Because policy core beliefs are subsystem-wide in scope and deal with fundamental policy choices, they are also very difficult to change.

We find that operationalizing two or three of these policy core beliefs is sufficient to identify at least two advocacy coalitions. However, we recommend operationalizing as many components of policy core beliefs as possible, because the subdivisions within coalitions or the possibility of a third coalition are often explained by disagreement across other components of policy core beliefs. For example, Weible and Sabatier (2005) found two coalitions involved in marine protected area (MPA) policy in California: a pro-MPA coalition and an anti-MPA coalition. The anti-MPA coalition, which primarily consisted of recreational and commercial fishers, was galvanized in their preferences against the establishment of MPAs in California waters. However, recreational and commercial fishers disagreed in their perceptions of the causes of the problem, creating different coordination patterns and a subcoalition split between these two fishing interests.

In some policy subsystems, intransigent debates among coalitions are based on divergent preferences regarding one or more subsystem-wide policy proposals (e.g., expansion vs. prohibition of drilling in the Arctic National Wildlife Refuge). The ACF has termed this type of belief *policy core policy preferences* (Sabatier 1998; Sabatier and Jenkins-Smith 1999). Policy core policy preferences are beliefs that "(i) are subsystemwide in scope, (ii) are highly salient, and (iii) have been a major source of cleavage for some time" (Sabatier and Jenkins-Smith 1999, 134). Policy core policy preferences are normative beliefs that project an image of how the policy subsystem ought to be, provide the vision that guides coalition strategic behavior, and helps unite allies and divide opponents. When translated to secondary beliefs, policy core policy preferences become policy preferences related to specific instruments or proposals dealing with only a territorial or substantive subcomponent of a policy subsystem. For example, in the Lake Tahoe Basin, policy participants are largely divided between developing land versus preserving land (policy core policy preferences) but might agree to restrict development on steep slopes where erosion is severe (secondary beliefs). Policy core policy preferences might be the stickiest glue that binds coalitions together.

The final level consists of *secondary beliefs*. Secondary beliefs are relatively narrow in scope (less than subsystem-wide) and address, for example, detailed rules and budgetary applications within a specific program, the seriousness and causes of problems in a specific locale, public participation guidelines within a specific statute, etc. Because secondary beliefs are narrower in scope than policy core beliefs, changing them requires less evidence and fewer agreements among subsystem actors and thus should be less difficult.

Researchers have modeled the ACF's belief systems using both qualitative and quantitative methods. Liften (2000), Elliott and Schlaepfer (2001 a, b), and Green and Houlihan (2004) are examples of qualitative models of ACF's beliefs system. Herron, Jenkins-Smith, and Silva (2005) and Weible, Sabatier, and Lubell (2004) are examples of quantitative models using questionnaire data. Chen (2003), Zafonte and Sabatier (2004), and Larsen, Vrangbaek, and Traulsen (2006) are examples of quantitative models using content analysis of public documents.

Advocacy Coalitions. Paralleling a growing policy network literature and a growing recognition of the importance of interpersonal relations to explain human behavior (Howlett 2002; Granovetter 1985; Provan and Milward 1995; Schneider et al. 2003; Thatcher 1998), the ACF predicts that stakeholder beliefs and behavior are embedded within informal networks and that policymaking is structured, in part, by the networks among important policy participants. The ACF assumes that policy participants strive to translate components of their belief systems into actual policy before their opponents can do the same. In order to have any prospect of success, they must seek allies, share resources, and develop complementary strategies. In addition, the devil shift exacerbates fear of losing to opponents, motivating actors to align and cooperate with allies.

The ACF argues that policy participants will seek allies with people who hold similar policy core beliefs among legislators, agency officials, interest group leaders, judges, researchers, and intellectuals from multiple levels of government. If they also engage in a nontrivial degree of coordination, they form an advocacy coalition. Coordination involves some degree of working together to achieve similar policy objectives. The ACF argues that advocacy coalitions provide the most useful tool for aggregating the behavior of the hundreds of organizations and individuals involved in a policy subsystem over periods of a decade or more. In any given policy subsystem, there will generally be two to five advocacy coalitions.

The concept of advocacy coalitions is one of the trademarks of the ACF but also the source of much scholarly discussion and criticism. Schlager's (1995) venerable critique is that the ACF provides insufficient justification that actors with similar policy core beliefs actually coordinate their behavior into coalitions. In response to Schlager's criticism, studies have analyzed network data to verify the existence of advocacy coalitions (Zafonte and Sabatier 1998; Weible 2005; Weible and Sabatier 2005). In this effort, Weible (2005) asked policy participants to iden-

tify organizational affiliations that they "seek to coordinate with on issues related to MPAs." He found that coordination patterns do overlap as expected in clusters based on policy core beliefs.

The recent empirical research still does not explain how coalitions overcome the free-rider problem of collective action to form and maintain coalition membership over time (Olson 1965). The ACF provides three rationales for overcoming the free-rider problem (Sabatier and Jenkins-Smith 1999, 139–141). First, the transaction costs of participating in a coalition are relative low compared with other forms of collective behavior because of shared belief systems, high trust, and willingness to distribute costs fairly. Second, the perceived benefits of participating in a coalition are exaggerated, especially when policy participants experience the devil shift in high conflict situations. When policy participants experience the devil shift, they exaggerate the power and maliciousness of their political opponents, which amplifies the severity of losses to a rival coalition and boosts the benefits of coordinating with coalition allies. To defend against a powerful political foe, the devil shift will make it more likely that policy participants will seek out like-minded allies to pool their resources and maintain those alliances over time. At the same time, the devil shift will make it less likely that policy participants will interact with opponents because of the value conflicts, distrust, and suspicion. Third, the level of coordination within a coalition varies from strong (e.g., developing a common plan and implementing that plan) to weak (e.g., monitoring ally activities and responding with complementary strategies) (Zafonte and Sabatier 1998; Sabatier and Jenkins-Smith 1999). Weak coordination has lower costs than strong coordination, reducing the threat of free riding. Weak coordination will probably be an important strategy for coalitions in which organizational membership faces legal impediments that limit formalized alliances. To date, no empirical study has investigated these three rationales for coalition formation and maintenance. We encourage research in this area, especially against Schlager's (1995) rival coordination hypotheses and in the context of organizational interdependencies (Fenger and Klok 2001).

Another long-standing debate within the ACF is the relative influence of material self-interests compared with policy core beliefs (Sabatier and Jenkins-Smith 1993; Parsons 1995; Schlager and Blomquist 1996; Elliot and Schlaepfer 2001 a, b; Nohrstedt 2005). Previous research by Jenkins-Smith and St. Clair (1993) on offshore petroleum leasing indicates that self-interest is more important for material groups (organizations motivated for economic self-interest) than purposive groups (organizations motivated by an ideological position). Similarly, Nohrstedt (2005) found that actors traded some policy core beliefs for strategic short-term interests regarding party cohesion and voter maximization. On the other hand, Weible (2005) found that policy core beliefs are a better predictor of coordinated behavior than perceptions of power. Leach and Sabatier (2005) found that an ACF-style model of the individual predicts the success of watershed partnerships slightly better than Ostrom's institutional analysis and

development framework (IAD) model. We hope this will be one of the focuses of future research.

Two Critical Paths to Belief and Policy Change

The ACF's model of the individual has major implications for belief and policy change within a subsystem. In particular, the importance of perceptual filters and the devil shift exacerbates conflict and distrust across coalitions and "group thinking" within coalitions (Janis, 1972). Thus it is exceedingly unlikely that members of a coalition will change policy core beliefs voluntarily. Scientific and technical information may facilitate learning at the secondary level, but not the policy core (Sabatier and Zafonte 2001). Because major change from within the subsystem is impossible, it must come from an external source.

The 1999 version of the ACF identified two paths for belief and policy change: policy-oriented learning and external perturbations. Thus, one of the precursors to policy change is a degree of belief change among some of the policy participants or a replacement of a dominant coalition by a minority coalition. Along these lines, Sabatier and Jenkins-Smith (1999) have distinguished between major policy change (following changes in policy core beliefs) and minor policy change (following changes in secondary beliefs). The effects of policy-oriented learning and external perturbations on belief and policy change are highlighted below.

Policy-Oriented Learning. The ACF defines policy-oriented learning as "relatively enduring alternations of thought or behavioral intentions that result from experience and/or new information and that are concerned with the attainment or revision of policy objectives" (Sabatier and Jenkins-Smith 1999, 123).

The capacity of policy-oriented learning to bring about belief and policy change has been hypothesized to vary depending on the level of the ACF's belief system. Deep core beliefs and policy core beliefs—being more normative—are very resistant to change in response to new information. On the other hand, secondary beliefs are hypothesized to be more susceptible to policy-oriented learning, because the relatively narrow scope requires less evidence and belief change among fewer individuals. For example, it is easier to change people's perceptions of the causes of air pollution in Los Angeles than in the United States as a whole. Whereas external perturbations can lead to rapid changes in subsystem structure and individual policy core beliefs, policy-oriented learning may take ten years or more and have a larger effect on secondary beliefs, which are more pliable to information than policy core beliefs (Weiss 1977).

External Perturbations or Shocks. The ACF has also argued that a necessary but not sufficient condition for major policy change within a subsystem is significant perturbations external to the policy subsystem. Significant perturbations include changes in socioeconomic conditions, regime change, outputs from other subsys-

tems, or disaster. These external shocks can shift agendas, focus public attention, and attract the attention of key decisionmaking sovereigns. The most important effect of external shock is the redistribution of resources or opening and closing venues within a policy subsystem, which can lead to the replacement of the previously dominant coalition by a minority coalition (Sabatier and Jenkins-Smith 1993). External shocks might also change components of the policy core beliefs of a dominant advocacy coalition. For example, during an economic recession, a proregulatory coalition may reconsider any adverse economic effects on target populations from stringent controls (Zafonte and Sabatier 2004). The causal links between an external shock and policy change is an ongoing effort among some ACF scholars (e.g., Nohrstedt 2005).

IMPORTANT MODIFICATIONS TO THE ACF SINCE 1999

This section discusses three important additions to the ACF since 1999 in terms of (1) the context within which coalitions operate, (2) a typology of coalition resources, and (3) two new paths to major policy change.

Coalition Opportunity Structures

One of the most frequent criticisms of the ACF is that it is too much a product of its empirical origins in American pluralism. It makes largely tacit assumptions about well-organized interest groups, mission-oriented agencies, weak political parties, multiple decisionmaking venues, and the need for supermajorities to enact and implement major policy change. These assumptions fit poorly, however, with European corporatist regimes with their restricted participation patterns, long-lasting decision structures, and consensual decision rules (Parsons 1995; Kübler 2001; Greer 2002; Luloffs and Hoppe 2003; Larsen, Vrangbaek, and Traulsen 2006). Questions have also been raised about the applicability of the ACF to the less democratic societies of Eastern Europe and developing countries (Parsons 1995; Andersson 1998). These concerns were partially addressed by Sabatier (1998).

The original ACF diagram had two sets of variables external to the policy subsystem: (1) stable system parameters (e.g., constitutional and social structure and natural resources, which change only very slowly) and (2) external events (e.g., public opinion and economic dislocation, which often change over a decade and which are hypothesized to be a necessary—but not sufficient—condition for major policy change). Both sets of factors affect the resources and constraints of subsystem actors, which in turn affect policymaking within the subsystem. We propose to create a new category of variables known as “coalition opportunity structures” to mediate between stable system parameters and the subsystem.

We borrow heavily from the largely European literature on “political opportunity structures” (Kriesi et al. 1995; McAdam, McCarthy, and Zald 1996; Kübler 2001).

Opportunity structures refer to relatively enduring features of a polity that affect the resources and constraints of subsystem actors. In our case, we are interested in factors that strongly affect the resources and behavior of advocacy coalitions. We identify two sets of variables borrowed substantially from Lijphart (1999):

1. *Degree of consensus needed for major policy change.* In polities such as Switzerland, Austria, and the Netherlands, there are very strong norms for consensus. In countries such as the U.S. with multiple veto points that any major reform must go through, supermajorities are needed. Then there are Westminster systems such as the UK and New Zealand, where decisionmaking is very centralized and the majority party in Parliament seldom garners more than 45% of the popular vote. Finally come authoritarian regimes, which usually incorporate minority rule. In general, the higher the degree of consensus required, the more incentive coalitions have to be inclusive (rather than exclusive), to seek compromise and share information with opponents, and generally to minimize devil shift.
2. *Openness of political system.* This is the function of two variables: (1) the number of decisionmaking venues that any major policy proposal must go through and (2) the accessibility of each venue. For example, countries such as the U.S. with separation of power and very powerful state/regional governments create numerous decisionmaking venues. Combined with strong traditions of accessible bureaucracies, legislatures, and courts, they create a very open system with many different actors involved in the policy process. Such complex systems lend themselves very well to the ACF as an analytical framework. In contrast, corporatist systems tend to be much less open, both because decisionmaking is much more centralized and because participation is restricted to a small number of central government authorities and the leaders of peak associations who observe norms of compromise and acquiescence to decisions. The ACF can be used to analyze corporatist regimes, but the advocacy coalitions will tend to have fewer actors, and the norms of compromise will create incentives for moderates to broker deals across coalitions. In the words of Larsen, Vrangbaek, and Traulsen (2006), in corporatist regimes there is an incentive for coalitions to have "solid cores with fuzzy edges" (i.e., several actors seeking to act as mediators).

In sum, pluralist coalition opportunity structures will tend to have moderate norms of compromise and open decision systems. Corporatist structures involve strong norms of consensus and compromise, and relatively restrictive norms of participation. Westminster systems will tend to have weak norms of compromise and relatively restricted norms of participation. Many developing countries will have weak norms of compromise and restricted participation. Although the ACF is probably most suited to the complexity of pluralist regimes, it can and has been

TABLE 7.1 Typology of Coalition Opportunity Structures

Openness of Political System	Degree of Consensus Needed for Major Policy Change		
	High	Medium	Low
High	Pluralist	Pluralist	
Medium	Recent Corporatist	Westminster	
Low	Traditional Corporatist		Authoritarian Executive

used to analyze corporatist, Westminster, and non/quasidemocratic regimes. The ACF's applicability to corporatist regimes should be enhanced by the increasing openness of many of them via inclusion of more stakeholders in negotiations and the greater accessibility of courts and bureaucracies at multiple levels of government (Lijphart 1999). In addition, adding a section on "negotiated agreements" to the paths to major policy change should enhance the ACF's relevance to corporatist scholars (see below).

Figure 7.2 provides a summary of the possible impact of coalition opportunity structures on the overall conceptual framework. The major impact is through the translation of relatively stable parameters into more specific constraints and resources affecting policymaking in the long run. Coalition opportunity structures also impact short-term resources and constraints.

Typology of Coalition Resources

Since the ACF's inception, the flow diagrams depicting the policy subsystem and exogenous factors have always depicted advocacy coalitions as having both (1) policy beliefs and (2) resources. Much subsequent research has focused on the content of belief systems, but virtually none has focused on coalition resources. In his dissertation applying the ACF to global climate change, Sewell (2005) uses a typology of political resources borrowed from Kelman (1987). Below, we present a typology of policy-relevant resources that policy participants can use in their attempts to influence public policy. It overlaps about 40% with the Kelman and Sewell set of resources and somewhat more with Weible (2006).

- A. *Formal legal authority to make policy decisions.* The ACF views actors in positions of legal authority as potential members of advocacy coalitions. This includes many agency officials, legislators, and some judges. When that happens, it is a major resource to the coalition (Sabatier and Pelkey

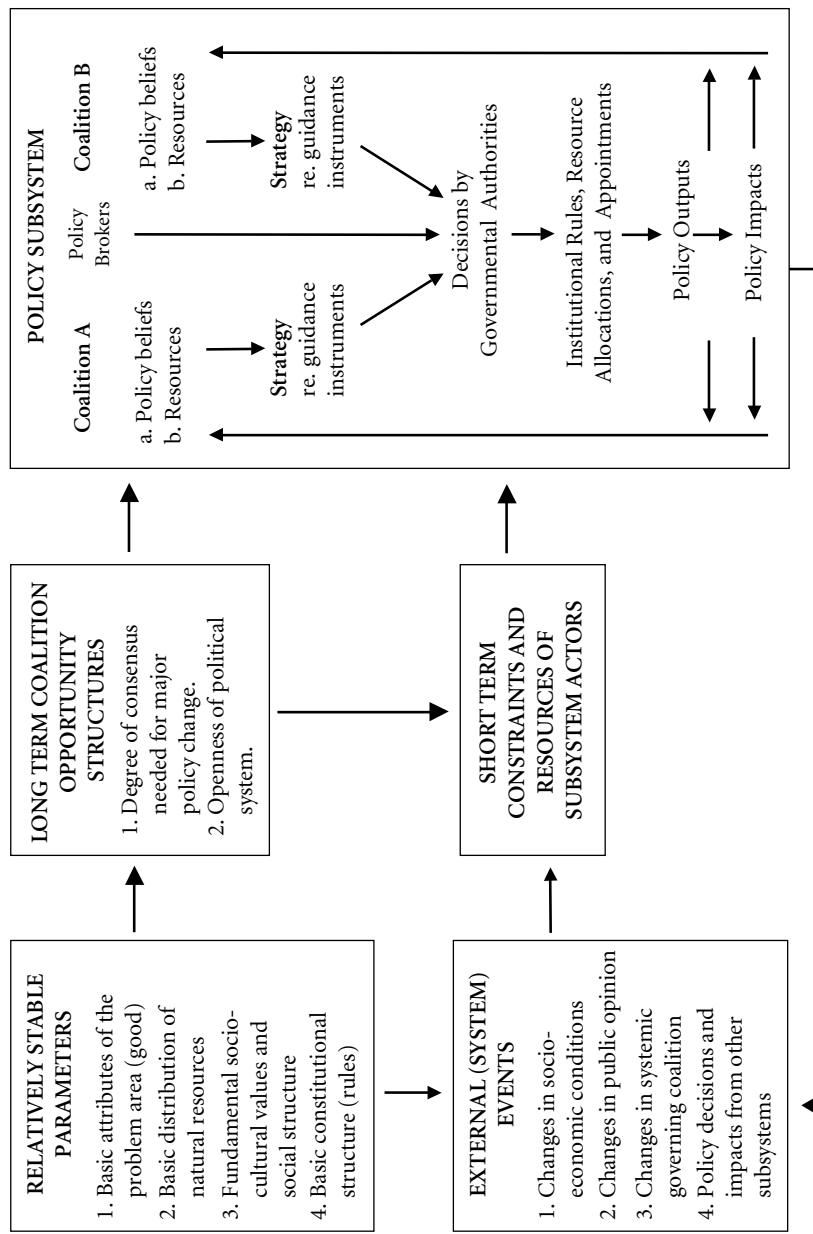


FIGURE 7.2 2005 Diagram of the Advocacy Coalition Framework

- 1987). One of the most important features of a dominant coalition is that it has more of its members in positions of formal authority than do minority coalitions. Major strategies for coalitions include placing allies in positions of legal authority through elections or political appointments, as well as launching lobbying campaigns to sway officials with legal authority.
- B. *Public opinion.* Opinion polls showing support for a coalition's policy positions are a major resource for policy participants. A supportive public is more likely to elect coalition supporters to legislative and other positions of legal authority and to help sway the decisions of elected officials. A typical strategy for advocacy coalitions is to spend a lot of time trying to garner public support.
 - C. *Information.* Information regarding the problem severity and causes and the costs and benefits of policy alternatives is an important resource for a coalition. Unless there is a hurting stalemate (see below), the ACF assumes that information is a resource utilized by policy participants to win political battles against opponents. Strategic uses of information include solidifying coalition membership, arguing against an opponent's policy views, convincing decisionmaking sovereigns to support your proposals, and swaying public opinion. Stakeholders often spin or even distort information to bolster their argument (Mazur 1981; Jenkins-Smith 1990). This is one of the reasons why the ACF emphasizes the role of researchers within coalitions.
 - D. *Mobilizable troops.* Policy elites often use members of the attentive public who share their beliefs to engage in various political activities including public demonstrations and electoral and fund-raising campaigns. Coalitions with minimal financial resources often rely very heavily upon mobilizable troops as an inexpensive resource.
 - E. *Financial resources.* Money can be used to purchase other resources. A coalition with ample financial resources can fund research and organize think tanks to produce information; bankroll sympathetic candidates, thereby gaining inside access to legislators and political appointees; launch media campaigns to earn public support; and advertise their policy positions to strengthen their number of mobilizable activists.
 - F. *Skillful leadership.* The literature on policy entrepreneurs demonstrates how skillful leaders can create an attractive vision for a coalition, strategically use resources efficiently, and attract new resources to a coalition (Mintrom and Vergari 1996; Muller 1995). Public policy research also describes how most antecedents to policy change (e.g., external shocks) dispose a political system to change, but skillful entrepreneurs are needed to bring about actual changes in policy (Kingdon 1995; Mintstrom and Vergari 1996).

Although each of these resources can be conceptualized rather easily, operationalizing them and then aggregating across resource types has proven

extraordinarily difficult. To date, the major operationalizations have been found in measuring information sources with network data (Weible 2005) and leadership in qualitative studies (Minstrom and Vergari 1996).

Alternative Paths to Major Policy Change: Internal Shocks

The original version of the ACF focused on shocks external to a subsystem as a necessary cause of major policy change (Sabatier and Jenkins-Smith 1988). An example would be the impact of the 1979 Iranian revolution on U.S. automotive pollution control policy via an oil embargo and the election of Ronald Reagan as President. The basic logic is that major change within a subsystem is largely impossible because of perceptual blinders and devil shift. An external shock provides a stimulus to change which is, by definition, largely outside the control of subsystem actors. We now add internal shocks (e.g., disasters from within policy subsystem) as providing an alternate path for major policy change. For example, the Santa Barbara oil spill was a disaster strongly affected by actors internal to the petroleum subsystem.

Our arguments for the importance of both internal and external shocks partly follow the rationales in the “focusing events” literature (Kingdon 1995; Birkland 1997, 1998, 2004). For example, following Birkland’s (2004) arguments, focusing events attract public attention; highlight policy vulnerabilities, failures, or neglect; and bring new information into the policy process. This has the potential to tip the balance of power among policy participants, providing the potential for major policy change.

This new revision to the ACF acknowledges that major internal shocks can also occur from within a policy subsystem and can lead to major policy change. The focusing event literature highlights many of these events as well. Examples of internal shocks include the Exxon Valdez spill (Busenberg 2000) and aviation disasters (Birkland 2004). The ACF differs from the “focusing event” literature, however, by continuing to make a distinction between internal and external shocks. The distinction follows the ACF’s premise that policy subsystems are the most useful unit of analysis for understanding and explaining policy change. The distinction also helps to identify the type of shock, the response by policy participants, and the potential outcomes (i.e., the possibility for belief and policy change)⁶.

Consistent with the model of the individual and causal assumptions within the ACF, there are two ramifications from internal shocks related to policy change, one of which is shared with external shocks. These ramifications assume, as we do, that most policy subsystems are dominated by one advocacy coalition with one or more minority advocacy coalitions⁷.

1. *Internal and external shocks redistribute critical political resources.* Both internal and external shocks put the public spotlight on a problem in a policy subsystem and have the potential to draw in new—or redistribute—critical resources (public support, financial support, etc.). This shift in resources may tip the power structure of the policy subsystem

from one dominant advocacy coalition and one or more minority coalitions to two or more competitive advocacy coalitions or, in a complete reversal, to a different dominant advocacy coalition with more than one different minority advocacy coalitions.

2. *Internal shocks confirm policy core beliefs in the minority advocacy coalition(s) and increase doubt within the dominant coalition.* Internal shocks that indicate monumental failures of the policies and behaviors of a dominant advocacy coalition also strongly affect the belief systems of policy participants. For the minority advocacy coalition members, internal shocks confirm their policy core beliefs (e.g., regarding the causes or seriousness of the problem in the policy subsystem). This galvanizes the membership of minority coalitions. For the dominant advocacy coalition, internal shocks increase doubt about their policy core beliefs and put into question the effectiveness of their policies.

In sum, the ACF is recognizing the importance of—and maintaining the distinction between—internal and external shocks as causes for policy change. Internal and external shocks differ in that an internal shock directly questions policy core beliefs of the dominant coalition, while the relevance of those beliefs is less clear in the case of an external shock.

Alternative Paths to Major Policy Change: Negotiated Agreements

Clearly, there are situations—such as Lake Tahoe in the 1980s (Sabatier and Pelkey 1990) in which coalitions that have been fighting for decades come to a negotiated agreement representing a substantial change from the status quo. If the ACF is to be relevant to the study of collaborative institutions and corporatist regimes, it must be modified to identify the conditions under which—in the absence of a major external or internal perturbation—agreements involving policy core changes are crafted among previously warring coalitions.

Fortunately, a solution emerges by combining (1) the hypotheses from the ACF concerning policy-oriented learning across coalitions (Sabatier and Jenkins-Smith 1988; Sabatier and Zafonte 2001) with (2) the literature on alternative dispute resolution (ADR) (Bingham 1986; Carpenter and Kennedy 1988; O’Leary and Bingham 2003; Susskind, McKearnan, Thomas-Larmer 1999; Ury 1993). This fusion is possible because many ADR theorists, particularly Carpenter and Kennedy (1988), utilize a model of the individual that stresses the role of perceptual filters and distrust in creating a spiral of escalating conflict.

Both ACF and ADR start with a situation in which individuals in a dispute (1) are grouped into coalitions consisting of individuals with similar beliefs and interests, (2) often interpret the same piece of information in very different ways, (3) distrust their opponents’ ability to negotiate fairly and to keep their promises, and (4) distrust their opponents’ ability to understand, let alone recognize as legitimate, their own goals and interests.

In such a situation, both the ADR literature and the ACF's discussion of the characteristics of "professional fora" come to very similar prescriptions concerning the design of institutions for negotiating and implementing agreements³. Nine of these prescriptions are highlighted below:

1. *Incentive to negotiate seriously: a hurting stalemate.* The basic precondition to successful negotiations is a situation in which all parties to the dispute view a continuation of the status quo as unacceptable. The ACF refers to this as "a policy stalemate," while the ADR literature refers to it as "a hurting stalemate" (Zartman 1991). The assumption is that individuals satisfied with the status quo have little incentive to give up anything in negotiations; thus negotiating with them is probably a waste of time.
2. *Composition.* Both frameworks stress the necessity of including representatives from all relevant groups of stakeholders, even those labeled "difficult" (so long as they represented a significant group of stakeholders). This assumes that, at least in the U.S., there are so many venues of appeal for actors excluded from negotiations that it is better to include them from the start rather than waste time in negotiations likely to be nullified or circumvented by appeals from excluded stakeholders.
3. *Leadership.* Sabatier and Zafonte (2001) argue that the chair of the professional forum called to resolve disputes among scientists from competing coalitions should be a respected "neutral" whose role is to remind participants of professional norms. The ADR literature stresses the importance of neutral and skilled mediators (Bingham 1986) and of facilitators skilled at running meetings.
4. *Consensus decision rule.* This is the defining characteristic of much of the ADR literature (Carpenter and Kennedy 1988; Susskind, McKearnan, Thomas-Larmer 1999). While not explicitly mentioned in Sabatier and Zafonte (2001), the basic logic behind consensus is the same as for inclusion: given the multitude of venues of appeal in most Western political systems, a dissatisfied party can wreck the implementation of any agreement. Therefore, this model advocates including them in the negotiations and granting them veto power.
5. *Funding.* Because the ACF views most administrative agencies as belonging to coalitions, it assumes that funding for a consensus process should come from sources who are members of different coalitions (Sabatier and Zafonte 2001).
6. *Duration and commitment.* Given the complexity of stakeholder negotiations and the time it takes to sort out technical issues—let alone find "win-win" solutions—a half-dozen meetings over a year or so is probably the minimum. In addition to agreeing to participate over an extended period of time, there should be continuity in the participation of representatives from a given organization. Turnover kills trust-building, because specific trust is a product of personal relationships. Finally,

participants in a forum/partnership should be required to report regularly to their constituents, lest they agree to compromises that will ultimately prove unacceptable to their group.

7. *The importance of empirical issues.* Both the ACF and ADR agree that primarily normative issues (e.g., abortion) are not ripe for negotiation, because there is virtually no prospect of changing an opponent's views. Thus, a substantial portion of the conflict must deal with empirical issues—primarily the seriousness and causes of the problem—which, with time and effort, can be at least partially resolved by researchers and other stakeholders from different coalitions.
8. *The importance of building trust.* Both literatures assume that negotiations begin with massive distrust between opponents. A necessary condition for reaching an agreement is that participants come to trust their opponents to listen carefully to their views, look for mutually acceptable compromises, and keep their promises. This takes time, effort, and carefully crafted process rules promoting fair and respectful treatment of all participants (Leach and Sabatier 2005).
9. *Alternative venues.* Although the American political system generally provides multiple venues of appeal to dissatisfied stakeholders, agreements are more likely to occur and to be implemented when alternative venues are relatively few in number and/or relatively unappealing. In the ADR literature (Ury 1993), this is known as BATNA (Best Alternative to a Negotiated Agreement). Stakeholders are more likely to negotiate seriously if their alternatives to the stakeholder negotiation are relatively unattractive (Leach and Sabatier 2005).

In sum, the ADR and the ACF are very complementary. Both have similar models of the individual and similar hypothesis. From the ACF, the ADR predictions are placed in a broader conceptual framework of the public policy process. From the ADR, the ACF becomes more adaptable to collaborative institutions and another major source of belief and policy change.

CONCLUSIONS

Since 1988, the ACF has developed into one of the most promising public policy frameworks (Schlager 1995; Parsons 1995; Schlager and Blomquist 1996; Johns 2003). There have been over 100 publications by researchers from around the world on topics as diverse as sport policy, environmental policy, domestic violence, drug policy, and nuclear policy. It has proven useful to researchers using quantitative methods, qualitative methods, or both. The goal of this article was to summarize briefly the literature since Sabatier and Jenkins-Smith (1999) to clarify some of the ACF's terms and causal arguments and to present some recent innovations.

The ACF is not without limitations. First, some argue that the ACF states the obvious. Any experienced policy practitioner can identify the sides of a political

debate. Although some applications of the ACF merely identify the competing sides of a political debate, the purpose of the ACF is much broader: to explain belief change and policy change over long periods. This chapter identifies four paths to major policy change within the ACF: (1) policy-oriented learning, (2) external shocks, (3) internal shocks, (4) a hurting stalemate. In addition, the ACF provides a theoretical guide to researchers for understanding the complexities of political conflict and mobilization. It starts by identifying the properties of policy subsystems, the stable and unstable parameters of the broader policy system, and the different components of policy core beliefs. This chapter adds to the list of key variables by listing categories of coalition resources.

Second, a growing criticism of the ACF is that it is constantly being revised and modified, thereby creating a “moving target” to criticism. A cursory read of the literature indicates, however, that the ACF obviously is not moving fast enough to avoid a healthy dose of skeptical examination. To us, the capacity to revise the ACF every six years or so (e.g., 1993, 1999, 2006) is a strength of the framework and a productive path of science. That is why we insist on clear concepts and falsifiable hypotheses (see Appendix 7.3). We want to be clear enough to be proven wrong. But when we are proven wrong—as in the pluralist assumptions in early versions of the ACF—we reserve the right to revise the framework in response to those criticisms so long as those revisions are consistent with the basic principles of the ACF. Those basic principles have not changed since 1988, but they have been expanded:

1. The model of the individual has remained rooted in social psychology, but its attributes have been clarified by Edella Schlager.
2. The focus of policymaking has always been the policy subsystem, but we now have a clearer method for identifying subsystems.
3. The key political actor has always been the advocacy coalition, and network analysis has confirmed that coalitions are principally held together by common beliefs.
4. The concern with the role of science in policy—the core stimulus for developing the ACF in the first place—has remained, but we now have a better idea of how to use professional forums to facilitate learning across coalitions.

Of the recent revisions to the ACF, demarcating a list of resources and coalition opportunity structures is clearly filling in holes that have been in the basic ACF diagram since 1988. The two new paths of major policy change relate to the importance of subsystems and the ACF’s model of the individual.

Third, a long-standing criticism of the ACF is that it does not address the collective action problem (Schlager 1995). We hope that the continued integration of network analysis into identifying coalitions will continue to address this issue (Zafonte and Sabatier 1998; Smith 2000; Fenger and Klok 2001; Weible 2005; Weible and Sabatier 2005) and strongly recommend the examination of the three

rationales for collective action in the ACF, which ideally would be tested against Schlager's rival coordination hypotheses.

Fourth, one of the underdeveloped aspects of the ACF is the absence of clearly conceptualized and operationalized institutional variables that structure coalition formation and behavior, as in the institutional analysis and development framework (Ostrom 2005). This chapter takes steps in this direction by introducing political opportunity structures; however, more is needed, especially at the policy subsystem level.

Finally, despite attempts to be clear and explicit in the concepts and causal processes within the ACF, there remain many unanswered and unexplored questions. To us, this is not a limitation of the ACF but an exciting opportunity that we hope will generate future research. Some of the important questions include:

1. What are the network properties of subsystem participants and advocacy coalitions (Smith 2000; Fenger and Klok 2001; Weible 2005)? How inclusive and exclusive are coalitions? Do coalitions have "solid cores with fuzzy edges" (Larsen, Vrangbaek, and Traulsen 2006)? How do policy participants form and maintain coalition membership over time (Schlager 1995)?
2. How do political opportunity structures affect coalition beliefs, resources, stability, and strategies (Zafonte and Sabatier 2004; Kübler 2001)?
3. After an external or internal shock, what are the causal processes that lead to policy change (Nohrstedt 2005)?
4. What is the role of power, resources, policy leaders/entrepreneurs, and functional interdependence in coalition membership, behavior, stability, and strategies (Mintrom and Vergari 1996; Fenger and Klok 2001; Green and Houlihan 2004; Weible 2005; Larsen, Vrangbaek, and Traulsen 2006)?
5. What is the relative importance of individual and organizational welfare concern (material self-interest) compared with other policy core beliefs in coalition formation and maintenance (Elliot and Schlaepfer 2001 a, b; Nortstedt 2005)?
6. How do rapid innovations in technology and science affect the structure of policy subsystems (Chen 2003)?
7. To what extent do policy participants frame events, especially external and internal shocks, to support coalition goals (Dudley and Richardson 1999; Green and Houlihan 2004)?
8. To what extent can the ACF be applied to global policy subsystems (Liftin 2000)?
9. To what extent can the ACF be used as a practical tool for policy makers (Weible 2006)?

We hope that these questions will be pursued in the next wave of ACF analyses.

This chapter elaborates upon the extent to which the ACF generalizes beyond American pluralism and furthers our understanding of policy change and coali-

tion activities. We encourage researchers interested in the ACF to explore the behavioral and policy ramifications of its assumptions and to test, apply, and expand its hypotheses.

NOTES

1. The actual number of publications is higher, because there is usually more than one publication per case study.
2. Examples of judicial authorities being members of subsystems and even advocacy coalitions include (1) the role of the federal courts, particularly the Fifth Circuit Court of Appeals in enforcing school desegregation policies (Rodgers and Bullock, 1976); (2) the role of Judge Boldt (NRC 1996)(substantially changing fishery policy in the Pacific Northwest); and (3) the role of the Federal District Court in Fresno, California, in protecting the water rights of San Joaquin Valley farmers (Hundley 2001) .
3. For example, if one wanted to know if there was a subsystem in “California water policy,” one would inquire if there were agencies, interest groups, and research institutions whose scope (or the scope of important subunits) was California water. The answer is clearly affirmative. But the answer is also clearly affirmative for Los Angeles water policy and Modesto water policy. Putah Creek water policy is in transition from nascent to mature. Agency subunits with this scope have existed for some time. However, the interest group and research infrastructure is only five to eight years old.
4. In fact, philosophers have long distinguished two systems of ethics: deontological (rule-based) and utilitarian/teleological (consequence-based). Frankena 1963.
5. See Sabatier and Jenkins-Smith (1999, 133) for a complete listing of the belief system components for policy elites.
6. We hope to flesh out a typology of internal shocks and policy ramifications in the future.
7. We will address internal and external shocks on different policy subsystem structures at a later time.
8. This really is a case of “parallel discovery.” Pelkey introduced Sabatier to the ADR literature in approximately 1999 or 2000; shortly thereafter they began working together on the Watershed Partnership Project. However, Sabatier and Zafonte had laid out their basic arguments for successful professional fora in papers delivered in Rotterdam in Summer 1995 and at the AAAS Meetings in Seattle in February 1997. These papers were eventually published in Sabatier and Zafonte (2001).

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Appendix 7.1 Applications by ACF Authors & Students, 1998–2006					
Author(s)	Author's Affiliation	Year	Study Geographic Scope	Study Substantive Topic	
1 Zafonte & Sabatier	UC, Davis	1999, 2004	U.S.	Air pollution	
2 Weible, Sabatier, & Lubell	UC, Davis	2004, 2005	California, U.S.	Marine protected areas	
3 Leach & Sabatier	UC, Davis & Center for Collaborative Policy	2005	California & Washington, U.S.	Watershed partnerships	
4 Weible & Sabatier	UC, Davis & Georgia Institute of Technology	2006	California & Nevada, U.S.	Lake Tahoe water policy	
5 Herron, Jenkins-Smith, & Silva	U of New Mexico & Texas A&M U	2002, 2005	U.S.	Nuclear security	

Appendix 7.2 Applications by Other Scholars, 1998–2006					
Author(s)	Author's Affiliation	Year	Study Geographic Scope	Study Substantive Topic	
Applications in Australia, Canada, and European Countries					
Berggren	Umeå Univ.	1998	Sweden	Land use	
Dudley & Richardson	Univ. of Oxford	1999	European Union	Steel policy	
Greenway & Grantham	Univ. of East Anglia & Univ. of Brighton	1999	U.K.	Roads & transport policy	
Jordan & Greenaway	Univ. of East Anglia	1998	U.K.	Coastal water policy	
Radaelli	Univ. of Bradford	1999	European Union	Tax policy	
Abrar, Lovenduski, & Margetts	Birkbeck College, Univ. Cambridge	2000	U.K.	Domestic violence	
Liftin	Univ. of Washington	2000	Canada	Climate change policy	
Smith	Univ. of Sussex	2000	U.K.	Industrial pollution policy	

Author(s)	Author's Affiliation	Year	Study Geographic Scope	Study Substantive Topic
Applications in Australia, Canada, and European Countries				
Compston & Madsen	Cardiff Univ. & Univ. of Copenhagen	2001	Denmark	Paid leave
Kübler	Univ. of Zurich	2001	Switzerland	Drug policy
Bryant	Univ. of Toronto	2002	Canada	Public health
Chen	Univ. of Melbourne	2003	Australia	Censorship
Wolsink	Univ. of Amsterdam	2003	The Netherlands	Land planning
Beyers & Kerremans	Leiden University & Katholieke University	2004	European Union	Economic / development policy
Finsterwald	The Schweizerische Gesellschaft für Gesundheitspolitik	2004	Switzerland	Health care
Loeber & Grin		2004	The Netherlands	Water quality
Owens	Cambridge Univ.	2004	U.K.	Transport & mineral policy
Schofield	Aston Univ.	2004	U.K.	Health policy
Wellstead, Davidson, & Stedman	The Canadian Forest Service's Northern Forestry Centre	2004	Canada	Forest Policy
Ladi	University Scheffield	2005	Greece	Environmental Policy
Meijerink	University of Nijmegen	2005	The Netherlands	Coastal Flooding Policy
Nohrstedt	Uppsala University	2005	Sweden	Nuclear Policy
Saint-Pierre	Institute national de la recherche scientifique	2005	Quebec, Canada	Cultural Policy
Breton, Richard, Gagnon, Jacques, & Bergeron	Deakin University	2006	Quebec, Canada	Public Health/ Tobacco policy
Larsen, Vrangbaek, & Traulsen	The Danish University of Pharmaceutical Sciences	2006	Denmark	Pharmacy Policy
Applications in U.S.				
Ellison ^{a,b}	Missouri State University	1998	U.S.	Endangered Species Act & water policy
Fenger & Klok	Erasmus University & University of Twente	2001	U.S.	Offshore Oil & gas
Ameringer	Univ. of Wisconsin, Oshkosh	2002	U.S.	Federal antitrust policy
Burnett & Davis	CA Environmental Protection Agency & Colorado State Univ.	2002	U.S.	Forest policy
Freudenburg & Gramling	University of Wisconsin & University of CA	2002	U.S.	Offshore oil leasing

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Author(s)	Author's Affiliation	Year	Study Geographic Scope	Study Substantive Topic
Dolan	Univ. of Central Florida	2003	U.S.	Economic policy
Leschine, Lind & Sharma	Univ. of Washington, National Marine Fisheries Service, & Columbia River Inter-tribal Fish Commission	2003	Washington State, U.S.	Water policy
Sobeck	Wayne State University	2003	U.S.	Drug policy
Toavs	Virginia Polytechnic Institute & State University (dissertation)	2004	U.S.	Information resource management
Fischhendler & Zilberman	Hebrew University Jerusalem	2005	California, U.S.	Water Policy
Mavis & Shorn	Vanderbilt University	2005	Tennessee, U.S.	Women's Health
Nicholson-Crotty	University of Missouri-Columbia	2005	Colorado, U.S.	Natural Resource Management
Davis	University of Colorado	2006	U.S.	Forest/Wildfire Policy
Layzer	Massachusetts Institute of Technology	2006	New England, U.S.	Fishery Management
Applications in Asian Countries				
Sato	University of Tokyo	1999	Japan	Smoking control
Kim	Korea University	2003	Korea	Water policy
Hsu	Colorado State Univ.	2005	Taiwan	Nuclear Policy
Applications in Africa & South American Countries				
Carvalho	Woods Hole Research Center	2001	Brazil	Metallurgical development
Arnold	Center for International Migration & Development	2003	Chile	Forest policy
Beverwijk	University of Twente	2004	Mozambique	Education policy
Applications Comparing Multiple Countries				
Elliott & Schlaepfer, ^b	WWF International & Swiss Federal Institute of Technology	2001	Canada, Indonesia, & Sweden	Forest policy
Farquharson	The Univ. of Melbourne	2003	Global	Tobacco policy
Sewell	Massachusetts Institute of Tech. (dissertation)	2005	U.S., Japan, & the Netherlands	Climate change policy
Green & Haulihan	Loughborough Univ.	2004, 2006	Canada & U.K.	Sport policy

Appendix 7.3

Hypotheses in the 1999 Version of the ACF

HYPOTHESES CONCERNING ADVOCACY COALITIONS

Hypothesis 1: On major controversies within a policy subsystem when policy core beliefs are in dispute, the lineup of allies and opponents tends to be rather stable over periods of a decade or so.

Hypothesis 2: Actors within an advocacy coalition will show substantial consensus on issues pertaining to the policy core, although less so on secondary aspects.

Hypothesis 3: An actor (or coalition) will give up secondary aspects of his (its) belief system before acknowledging weaknesses in the policy core.

Hypothesis 10 (new in 1993): Elites of purposive groups are more constrained in their expression of beliefs and policy positions than elites from material groups.

Hypothesis 11 (new in 1993): Within a coalition, administrative agencies will usually advocate more moderate positions than their interest-group allies.

HYPOTHESES CONCERNING POLICY CHANGE

Hypothesis 4 (revised in 1993): The policy core attributes of a governmental program in a specific jurisdiction will not be significantly revised as long as the subsystem advocacy coalition that instituted the program remains in power within that jurisdiction—except when the change is imposed by a hierarchically superior jurisdiction.

Hypothesis 5 (1997): Significant perturbations external to the subsystem (e.g., changes in socioeconomic conditions, public opinion, systemwide governing coalitions, or policy outputs from other subsystems) are a necessary—but not sufficient—cause of change in the policy core attributes of a governmental program.

HYPOTHESES CONCERNING POLICY LEARNING, PARTICULARLY ACROSS COALITIONS

Hypothesis 6: Policy-oriented learning across belief systems is most likely when there is an intermediate level of informed conflict between the two coalitions. This requires that:

- A. each have the technical resources to engage in such a debate; and that
- B. the conflict be between secondary aspects of one belief system and core elements of the other—or, alternatively, between important secondary aspects of the two belief systems.

Hypothesis 7: Problems for which accepted quantitative data and theory exist are more conducive to policy-oriented learning across belief systems than those in which data and theory are generally qualitative, quite subjective, or altogether lacking.

Hypothesis 8: Problems involving natural systems are more conducive to policy-oriented learning across belief systems than those involving purely social or political systems, because in the former many of the critical variables are not themselves active strategists, and because controlled experimentation is more feasible.

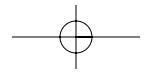
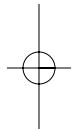
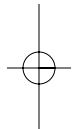
Hypothesis 9: Policy-oriented learning across belief systems is most likely when there exists a forum that is:

- A. prestigious enough to force professionals from different coalitions to participate; and
- B. dominated by professional norms.

Hypothesis 12 (new in 1993): Even when the accumulation of technical information does not change the views of the opposing coalition, it can have important effects on policy—at least in the short run—by altering the views of policy brokers.

PART FOUR

Frameworks Comparing Policies Across a Large Number of Political Systems



8

Innovation and Diffusion Models in Policy Research

FRANCES STOKES BERRY

AND WILLIAM D. BERRY

Although most actions by governments are incremental in that they marginally modify existing programs or practices, and much research about policymaking seeks to explain why it tends to be incremental, ultimately every government program can be traced back to some nonincremental *innovation*.¹ Thus, one cannot claim to understand policymaking unless one can explain the process through which governments adopt new programs. Recognizing this, public policy scholars have conducted extensive inquiry into policy innovation.

When people speak of innovation in common parlance, they usually refer to the introduction of something *new*. But when should a government program be termed “new?” The dominant practice in the policy innovation literature is to define an innovation as a program that is new to the government adopting it (Walker 1969, p. 881). This means that a governmental jurisdiction can innovate by adopting a program that numerous other jurisdictions established many years ago. By embracing this definition, students of policy innovation explicitly choose not to study policy *invention*—the process through which *original* policy ideas are conceived. To flesh out the distinction via illustration, a single policy *invention* can prompt numerous American states to *innovate*, some many years after the others.

This chapter will review the dominant theories of government innovation in the public policy literature. However, we will see that these theories borrow heavily from ones developed to explain innovative behavior by *individuals*: for example, teachers using a new method of instruction (studied by education scholars), farmers adopting hybrid seeds and fertilizers (studied by rural sociologists), and consumers purchasing new products (studied by marketing scholars).² We will

also see that theories of government innovation share many commonalities with models that seek to explain *organizational* innovation.

Some studies of government innovation have been cross-national, investigating how nations develop new programs and how such programs have diffused across countries (Hecllo 1974; Collier and Messick 1975; Brown et al. 1979; Tolbert and Zucker 1983; Kraemer, Gurbaxani, and King 1992; Simmons 2000; Simmons and Elkins 2004; Weyland 2004; Brooks 2005; Gilardi 2005; Meseguer 2005a, 2005b). Other studies have focused on innovation by local or regional governments within the United States (Aiken and Alford 1970; Crain 1966; Bingham 1977; Midlarsky 1978; Lubell et al. 2002) or regional governments in other nations (Ito 2001). But the vast majority of empirical research on government innovation has examined policymaking by the American states. Because of this, we will devote our primary attention to state-level research. Although most models of policy innovation we describe can be extended to national and local governments, some of these models hinge at least partially on the competitive nature of states within a federal system and thus must be modified when applied to local or regional governments within a unitary system, or to nations in an international system or an organization like the European Economic Community.

Despite the extensive number of studies of state government innovation, at a general level, there are two principal forms of explanation for the adoption of a new program by a state: *internal determinants* and *diffusion* models (Berry and Berry 1990). Internal determinants models posit that the factors leading a jurisdiction to innovate are political, economic, or social characteristics internal to the state. In these models, states are not conceived as being influenced by the actions of other states. In contrast, diffusion models are inherently intergovernmental; they view state adoptions of policies as emulations of previous adoptions by other states. Both types of models were introduced to political scientists in Walker's (1969) seminal study of state government innovation across a wide range of policy areas.³

This chapter begins with separate discussions of the central features of internal determinants and diffusion models. We then turn to the methodologies that have been used to test them. Although most scholars have acknowledged that few policy adoptions can be explained purely as a function of (1) internal determinants (with no diffusion effects) or (2) policy diffusion (with no impact by internal factors), most *empirical* research conducted before 1990 focused on one type of process or the other. At the time of their introduction during the late 1960s and early 1970s, the "single-explanation" methodologies developed were highly creative approaches using state-of-the-art quantitative techniques. However, more recent research has shown that these traditional methodologies are severely flawed (Berry 1994b). In 1990, Berry and Berry presented a model of state lottery adoptions reflecting the simultaneous effects of both internal determinants and policy diffusion on state adoption behavior and employed event history analysis to test their model. In the last decade and a

half, this approach has been emulated and extended in dozens of studies (see the Appendix).

DIFFUSION MODELS

Rogers (1983, p. 5) defines diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system.” Students of state policy innovation positing diffusion models conceive of the governments of the fifty American states as a social system and maintain that the pattern of adoption of state policy results from states emulating the behavior of other states. Various alternative diffusion models have been developed (each of which will be discussed below), with the primary difference being the “channels” of communication and influence assumed to exist. However, we would argue that all these models hypothesize that states emulate each other for one of three basic reasons.

First, states *learn* from one another as they borrow innovations perceived as successful elsewhere. Relying on the classic model of *incremental* decisionmaking (Lindblom 1965; Simon 1947), Walker (1969) hypothesizes that state policymakers faced with complex problems seek decisionmaking shortcuts (see also Glick and Hays 1991; Mooney and Lee 1995). Lindblom (1965) maintains that one critical method of simplification is to restrict consideration to only those alternatives that are marginally different from the status quo. Walker argues that another simplification method is to choose alternatives that, although not minor modifications of current policy, have been pursued and proven effective or promising in other states. In essence, by showing how emulation of other states’ innovations can be an aid in simplifying complex decisions, policy diffusion theorists have demonstrated how the adoption of *nonincremental* policies can be consistent with the logic underlying incrementalism.⁴

Second, states *compete* with each other: they emulate policies of other states to achieve an economic advantage over other states or avoid being disadvantaged. For instance, states may decrease welfare benefits to match the levels of their neighbors to prevent becoming a “welfare magnet” for the poor (Peterson and Rom 1990; Volden 2002; Berry, Fording, and Hanson 2003; Bailey and Rom 2004; Berry and Baybeck 2005). Similarly, a state may adopt a lottery to reduce the incentive for its own citizens living near a boundary to cross the border to play in another state’s game (Berry and Berry 1990; Berry and Baybeck 2005). In a final example, states may adopt economic development incentive programs already present in other states to prevent an exodus of businesses from the state (Gray 1994).⁵

Third, Walker (1969, p. 891) argues that, despite the autonomy that states possess in a federal system, there is pressure on all states to conform to nationally or regionally accepted standards. Such pressure leads states to adopt programs that

have already been widely adopted by other states. Sometimes the pressure is what DiMaggio and Powell (1983) label “coercive,” when federal mandates give state governments little choice. In other cases, there is “normative” pressure on state officials to adopt the best practices in other states. State officials tend to be socialized into shared norms by common professional training (such as the master’s in public administration degree) and by interaction in professional associations (e.g., the National Emergency Management Association).

As we review the various diffusion models developed in the policy innovation literature, each focusing on a different channel of communication and influence across government jurisdictions, we will see that each model relies on one or more of these three reasons to justify why states emulate other states when making public policy. We begin with the two models most commonly proposed in the literature—the national interaction model and the regional diffusion model—and finish with several other models positing different channels of influence.

The National Interaction Model

This model assumes a national communication network among state officials regarding public-sector programs in which officials learn about programs from their peers in other states. It presumes that officials from states that have already adopted a program interact freely and mix thoroughly with officials from states that have not yet adopted it, and that each contact by a not-yet-adopting state with a previous adopter provides an additional stimulus for the former to adopt. The probability that a state will adopt a program is thus proportional to the number of interactions its officials have had with officials of already-adopting states (Gray 1973a). There are, indeed, formal institutional arrangements that encourage the thorough mixing of states. Chief among these are various associations of state officials that allow individuals with similar positions across the fifty states to meet periodically in national conferences. These include associations of elected “generalist” officials such as the National Governors’ Association and the National Conference of State Legislatures, each of which have numerous committees on specific policy areas, as well as organizations of functionalist officials such as the National Association of General Service Administrators.

This learning model was developed and formalized by communication theorists analyzing the diffusion of an innovation through a social system (assumed to be of fixed size) consisting of individuals. In equation form, the model can be expressed as

$$\Delta N_t = N_t - N_{t-1} = bN_{t-1} [L - N_{t-1}]. \quad [\text{Equation 1}]$$

In this model, L is the proportion of individuals in the social system that are potential adopters (a value assumed to remain constant over time), and serves as

a ceiling on possible adoptions. If every person in the system is unconstrained and may adopt, L equals one. N_t is the cumulative proportion of adopters in the social system at the end of time period t , N_{t-1} is the cumulative proportion at the end of the previous period, and thus ΔN_t is the proportion of new adopters during period t .⁶ With some algebraic manipulation, the terms in Equation 1 can be rearranged to yield

$$N_t = (bL + 1) N_{t-1} - bN^2_{t-1}. \text{ [Equation 2]}$$

Then, since Equation 2 is linear, given data on the timing of adoptions by all potential adopters, the parameters b and L can be estimated by regressing N_t on N_{t-1} and N^2_{t-1} .⁷

When the cumulative proportion of adopters is graphed against time, Equation 1 yields an S-shaped curve, like that reflected in Figure 8.1. Early in the diffusion process, adoptions occur relatively infrequently. The rate of adoptions then increases dramatically but begins to taper off again as the pool of potential adopters becomes small.

In an important early effort to enhance the theoretical precision of state government innovation research and explain states' adoptions of new policies with a

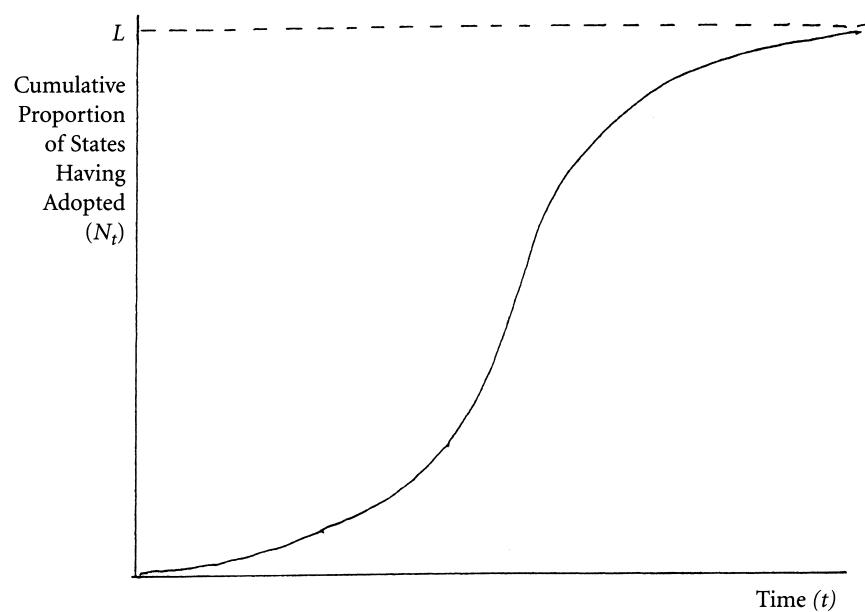


FIGURE 8.1 S-Shaped Curve Consistent with National Interaction Model
(Equation 1)

widely applicable general theory of innovation, Virginia Gray (1973a; see also Menzel and Feller 1977; Glick and Hays 1991) employs Equation 2, assuming that the social system is the community of American states. Setting the time period as the calendar year, her regression analyses show that adoptions of several state policies—including Aid to Families with Dependent Children, education policies, and civil rights laws—fit the equation very closely. But several factors limit the utility of the national interaction model—as traditionally conceived in Equations 1 and 2—for students of government innovation.

First, the model assumes that, during any time period, all potential adopters that have not yet adopted are equally likely to do so; the only variable influencing the probability that a potential adopter will adopt during any time period is the cumulative number of adopters prior to that period. Indeed, the model treats all potential adopters as totally undifferentiated actors who interact “randomly,” that is, who are equally likely to have contact with all other members of the social system. Thus, the theory is well suited for when the social system is a large society of individuals and the scholarly interest is in a macro-level description of the diffusion process. While certainly in any society friendships and work and family relations guarantee that an individual’s interactions with other members of the society are nonrandom, when studying the diffusion of a new consumer product through a large society, for instance, it may suffice to employ a model assuming random interaction. But when studying the diffusion of a policy through the fifty states, it seems less reasonable to treat the states as undifferentiated units; we know that Mississippi differs in many ways from New York, and our theory should probably take some of these differences into account. It is also likely that contacts between officials from different states are patterned rather than random.⁸ It makes sense, for example, that politicians and bureaucrats in New York will have more contact with their counterparts in New Jersey than with officials in Mississippi.

Recently, the logic underlying the national interaction model has been modified to reflect a recognition that the professional associations encouraging interaction among state officials involve some states more than others, thereby prompting probabilities of policy adoption that vary across states. For example, Balla (2001) hypothesizes that states whose insurance commissioners sat on a committee of the National Association of Insurance Commissioners with jurisdiction over the regulation of HMOs were more likely than others to adopt model legislation proposed by the committee, due to the greater centrality of commissioners in the informational networks surrounding the proposed legislation.

The Regional Diffusion Model

Whereas the national interaction model assumes that states interact with each other on a national basis, the regional diffusion model posits that states are influenced

primarily by those states geographically proximate. Most of these models assume that states are influenced exclusively by those states with which they share a border; as such, we call them *neighbor* models. Specifically, these models hypothesize that the probability that a state will adopt a policy is positively related to the number (or proportion) of states bordering it that have already adopted it (e.g., Berry and Berry 1990; Mintrom 1997; Balla 2001). Other models, which we term *fixed-region* models, assume that the nation is divided into multiple regions (of contiguous states) and that states tend to emulate the policies of other states within the same region (e.g., Mooney and Lee 1995).

Both learning and competition can be the basis for assuming that diffusion channels are regional in nature. States are more likely to learn from nearby states than from those far away because states can more easily “analogize” to proximate states, which tend to share economic and social problems and have environments similar enough so that policy actions may have similar effects (Mooney and Lee 1995; Elazar 1972). However, it is when policy adoptions are attempts to compete with other states that the likelihood of regionally focused, rather than nationally based, diffusion seems greatest. Because of constraints on the mobility of most individuals and firms, states are more likely to compete with nearby states than with those far away. For example, states worried about losing revenue—especially those with large population centers near a border—are likely to be very concerned about whether their immediate neighbors have lotteries but unconcerned about remote states. Similarly, states fearful of becoming a welfare magnet may make immediate responses to policy changes by neighbors with large concentrations of poor people near their borders but may pay no attention to policy adjustments in far-away states (Berry and Baybeck 2005).

Although fixed-region and neighbor models are similar in that their emphasis is on the emulation of nearby states, the models are subtly different in their specified channels of influence. Fixed-region models presume (if only implicitly) that all states within the same region experience the same channels of influence. In contrast, neighbor models—by avoiding fixed regional groupings of states and instead pointing to the influence of all bordering states—assume that each state has a unique set of reference states for cues on public-sector innovations. Although one can discern policies where a neighbor model makes more sense than a fixed-region formulation (e.g., in the case of lottery adoptions), and vice versa, neither pure model is entirely realistic. Fixed-region models imply implausibly that some states—those bordering another region—are completely unaffected by some of their neighbors. Neighbor models assume that states that are close but share no border (e.g., Vermont and Maine) have no influence on one another. A more realistic regional diffusion model might assume that states are influenced most by their neighbors but also by other states that are nearby. One simple specification consistent with this assumption is that the level of influence of one state over another is proportional to the distance between the two states.

Leader-Laggard Models

Leader-laggard models assume that certain states are pioneers in the adoption of a policy, and that other states emulate these leaders (Walker 1969, p. 893). Most often, scholars presume that leadership is regional, with states taking cues from one or more pioneer states within their geographical region (Walker 1969, 1973; Grupp and Richards 1975; Foster 1978). This model can be modified easily, however, to reflect the notion of national leaders: states that, when they adopt a new program, increase the likelihood that other states, regardless of their geographical location, will adopt. Leader-laggard models are consistent with the presumption that, in any policy area, some states' personnel are more highly regarded by their peers than other states' and that policymakers are more likely to turn to these states for cues.⁹ As such, these models assume that states emulate other states in a *learning* process rather than because of interstate competition or a general pressure to conform.¹⁰

Although there are certainly strong reasons to expect leader states to emerge, thus forming the groundwork for leader-laggard diffusion, such models are often flawed by their failure to identify *a priori* (1) the states (or even types of states) that are expected to be pioneers, and (2) the predicted order of adoption of the states expected to follow. Indeed, without an *a priori* theoretical prediction of which state(s) will lead and the order in which the remaining states will follow, a leader-laggard model is virtually nontestable; any adoption pattern will involve some state (which *ex-post-facto* could be designated the pioneer) adopting a policy first and other states adopting afterward.

One leader-laggard model that clearly specifies the channels of diffusion is the *hierarchical* model developed by Collier and Messick (1975). Studying the pattern of social security adoptions by nations around the world, these authors hypothesize that the pioneers in social security were highly (economically) developed nations and that social security programs diffused down a hierarchy of nations from most developed to least developed.¹¹ Such an hypothesis specifies (in a testable fashion) the characteristics of leaders (high economic development) and a clear ordering of successive adoptions (from most-developed to least-developed countries). But note that, though the hierarchical model specifically posits diffusion of a policy across jurisdictions, its empirical prediction of a strong relationship between economic development and earliness of adoption is indistinguishable from that of an internal determinants model, which assumes no influence of states on one another and, instead, posits that the sole determinant of the propensity of a state to adopt is its level of development.

Isomorphism Models

Some have argued that a state is most likely to take cues about adopting a new policy from other states that are similar, as these states provide the best information about the nature of the policy and the likely consequences of adopting it.¹² Sometimes this may lead to regional diffusion, as nearby states tend to be similar

in a variety of ways. But states share similarities with states that are not geographically proximate. Grossback, Nicholson-Crotty, and Peterson (2004; see also Nicholson-Crotty 2004) stress especially the importance of ideological similarity, proposing that the effect of a policy adoption by a state will be greatest on states that are the most ideologically similar (on a liberal-conservative continuum). But Volden (2006) finds that policies diffuse based on a wide range of “political, demographic and budgetary similarities across states.” Weyland (2004, p. 256) concludes that policies diffuse along “channels of cultural commonality and historic connection” among nations in Latin America, and Brooks (2005, p. 281) expects policies to diffuse within “peer groups [of nations], organized on the basis of shared geopolitical and economic characteristics.”

Vertical Influence Models

The vertical influence model sees states as emulating not the policies of other states—as part of a “horizontal” diffusion process—but, instead, the policies of the national government. One might view this model as conceptually similar to a leader-laggard model, which specifies that there is a single pioneer state; in effect, the national government serves the same role as a state-level pioneer. To the extent that states emulate the national government as a result of a learning process, the similarity between models is indeed quite strong; the national government is analogous to a widely respected leader state. But the reasons states are influenced by the national government to adopt policies extend beyond learning. In some cases, the national government can simply mandate certain activities by states (e.g., the National Voter Registration Act, which required states to allow people to register to vote at the same time they register their motor vehicles). Although one might label such a process diffusion, it is a highly uninteresting form of diffusion, as nearly all state discretion is eliminated by national-level fiat. A more interesting theoretical process results when states retain discretion but the national government provides incentives for the adoption of a policy by states. Typically, there are financial incentives resulting from a federal grant-in-aid program, as in the case of Medicaid and associated administration provisions. In another example, Derthick (1970) shows how the Social Security Act of 1935 shaped state welfare programs through the AFDC grant to the states. Moreover, Welch and Thompson (1980) find that policies for which the federal government offers incentives diffuse faster than “state preserve” policies (see also Brown 1975; Soss et al. 2001; Allen, Pettus and Haider-Markel 2004).¹³

INTERNAL DETERMINANTS MODELS

Internal determinants models presume that the factors causing a state to adopt a new program or policy are political, economic, and social characteristics of the state. Thus, in their pure form, these models preclude diffusion effects in which a state is influenced by the actions of other states or the national government.

Certainly, once a policy is adopted by one state, it is extremely unlikely that another state's adoption would be *completely* independent from the previous one. Unless the two states arrived at the same (or very similar) policy via a highly improbable coincidence, at a minimum there must have been a diffusion from one state to the other of the *idea* for the policy. Thus, we believe that internal determinants models must acknowledge that, when a state adopts a policy new to the American states, media coverage and institutionalized channels of communication among state officials make it likely that knowledge of the policy spreads to other states.¹⁴ However, such models assume that, once a state is aware of the policy, the internal characteristics of the state are what determine if and when an adoption will occur, rather than pressure created by other states' adoptions or explicit evaluations of the impacts of the policy in earlier-adopting states.

The Choice of a Dependent Variable

One important theoretical issue in the construction of internal determinants models is how the dependent variable—the propensity of a state to adopt a policy or a set of policies—is defined. In research prior to the 1990s, most internal determinants models made the American state the unit of analysis and employed a dependent variable that assumes that, the earlier a state adopts, the greater its "innovativeness." Empirical analysis was cross-sectional, and the dependent variable was generally measured at the interval level by the year of adoption (or some linear transformation thereof) or at the ordinal level by the rank of a state when states are ordered by their time of adoption (Canon and Baum 1981; Glick 1981; Gray 1973a; Walker 1969). However, a dichotomous version of this variable, which indicates whether a state had adopted a policy by a specified date, was also used (Filer, Moak, and Uze 1988; Glick 1981; Regens 1980).

More recent research generally conceptualizes the propensity of a state to adopt a policy differently. The unit of analysis is still the American state but is now the state in a particular year. More precisely, the unit of analysis is the American state before it adopts the policy and, thus, still eligible to adopt in a particular year.¹⁵ The dependent variable is the probability that a state eligible to adopt will do so during that year (e.g., Berry and Berry 1990, 1992; Hays and Glick 1997; Mintrom 1997). Empirical analysis is pooled (cross-sectional/time-series), where states are observed over multiple years.

One important distinction between the two dependent variables is that the *probability of adoption* is a concept that is (1) defined for each state at any point in time and (2) free to change over time, whereas the *earliness of adoption* takes on a single fixed value for each state, determined by the year it adopts. A second distinction is that, while the timing of a state's adoption relative to other states is fundamental to its score on the "earliness of adoption" variable, relative timing is not necessarily relevant to a determination of a state's propensity to adopt when a "probability of adoption" conception is utilized. A state adopting a policy decades

later than most other states is not necessarily deemed as having had a (stable) low propensity to adopt; it is possible that the state had a low probability for many years but that changing conditions led to an increased probability of adoption.

Although we are reluctant to declare either of these dependent variables—earliness of adoption or probability of adoption—as unambiguously the best one for internal determinants models, we believe that greater advances have come from models using the latter dependent variable, a position on which we will elaborate below. Furthermore, our discussion of the theory underlying internal determinants models in this section will emphasize conceptualizations in which the dependent variable is the probability of adoption.

When propensity to adopt is conceived of as the probability of adoption, the focus of research must be a single policy.¹⁶ However, when studying the innovativeness of states as reflected by their earliness of adoption, attention can focus on either one policy or a set of policies. At one extreme are studies designed to explain states' adoptions of a single policy or program (e.g., Berry and Berry's [1990] analysis of the lottery, and Hays and Glick's [1997] research on state living wills). Other internal determinants models have focused on multiple policy instruments in a single issue area (e.g., Sigelman and Smith's [1980] research on consumer protection, covering twenty-eight different kinds of consumer legislation). At the other extreme is Walker's (1969) analysis of a state's innovative ness index, reflecting the earliness of adoption of a set of eighty-eight policies spanning a wide range of economic and social issue areas, and Savage's (1978) innovativeness measure based on sixty-nine policies.

Implicit in the Walker and Savage measures of innovativeness is that it is reasonable to conceive of a *general proclivity* of a state to innovate across a wide range of issue areas. Some are skeptical of this claim; in a classic exchange with Walker, Gray (1973a, 1973b) claims that states can be highly innovative in one program area but less innovative in others, thereby rendering any general innovativeness score useless. Of course, whether states are innovative generally and across a range of policy areas is an empirical question, and if the evidence is supportive, it is useful to develop models explaining generic innovativeness.

But even the variation already documented in state innovativeness across issue areas makes it obvious that, for any individual policy, the propensity of states to adopt the policy cannot be explained fully by a general proclivity to innovate (Gray 1973a). For this reason, even if generic innovativeness is a useful concept, we still ought not treat it as the *ultimate* dependent variable. A good alternative is to take the course of Mooney and Lee (1995), Hays and Glick (1997), and Soule and Earl (2001), who conceive of a state's general proclivity to innovative as just one of a set of independent variables that influences the probability that a state will adopt a particular policy. The idea is that states vary in their general receptivity to new ideas, and that this is one factor that accounts for their differential probabilities of adopting any specific program. The strength of the role played by general receptivity relative to other specific determinants of the probability of adoption is assessed empirically.

Hypotheses from Internal Determinants Models

Much of the theory underlying internal determinants models of state government innovation can be traced to research about the causes of innovativeness at the individual level. For example, a tremendous level of support has been generated for the proposition that persons with greater socioeconomic status—higher levels of education, income, and wealth—are more likely to innovate than persons with less status.¹⁷ A high level of education provides individuals access to knowledge about innovative practices and an openness to new ideas. Many innovations cost money or involve financial risks for those who adopt them; greater income and wealth provide people the resources necessary to absorb these costs. Similar hypotheses have been developed about innovation in organizations. Organizations of greater size and with greater levels of “slack resources” are assumed to be more innovative than smaller organizations and those with fewer resources (Rogers 1983; Cyert and March 1963; Berry 1994a). In turn, Walker (1969, pp. 883–884) explicitly draws on these organizational-level propositions to support the hypothesis that larger, wealthier, and more economically developed states are more innovative.

Indeed, we can turn to the literature on organizational innovation for a framework useful for assessing the variety of internal determinants likely to influence the probability that states will innovate. Lawrence Mohr (1969, p. 114) proposes that the probability that an organization will innovate is inversely related to the strength of obstacles to innovation, and directly related to (1) the motivation to innovate, and (2) the availability of resources for overcoming the obstacles. This proposition suggests a valuable organizational device, since among the hypotheses frequently reflected in internal determinants models are those concerning the motivation to innovate, as well as the obstacles to innovation and the resources available to surmount them.

We will review these hypotheses, emphasizing those that seem to be applicable to a wide range of policies. However, we recognize that explaining the adoption of any specific policy is likely to require attention to a set of variables that are ad hoc from the point of view of innovation theory but critical given the character of the politics surrounding the issue area in question. For example, states with strong teacher unions are less likely to adopt school-choice reforms (Mintrom 1997), and states with large fundamentalist populations are less likely to adopt several policies considered immoral by many fundamentalists: state reforms (in the pre-Roe period) making abortions more accessible, and state lotteries (Mooney and Lee 1995; Berry and Berry 1990). A strong presence of religious fundamentalists in a state does not diminish the likelihood of adoptions of every policy, just those raising moral issues central to their religious beliefs.

An explanation of the adoption of any specific policy also is likely to require independent variables that are relevant not because they are determinants of the propensity of a state to adopt a *new* policy but because they influence the preferences of policymakers concerning the substantive issues raised by the new policy.

For instance, a legislator's response to a proposal for a new welfare program should be driven partially by the same factors determining the legislator's reaction to a proposal for an incremental change in existing welfare programs, such as increasing benefit levels. In another example, research by Berry and Berry (1992, 1994) on state tax policy finds that the factors explaining states' adoptions of new tax instruments are virtually identical to the variables accounting for decisions to increase the rates in existing taxes—despite the fact that the imposition of a tax new to a state can unambiguously be termed a policy innovation whereas an increase in the rate for an existing tax would probably be viewed as an incremental policy choice. What seems to drive the politics of taxation in the American states is the unpopularity of taxes, and this unpopularity affects both tax adoptions and tax increases.¹⁸

Our review of hypotheses from internal determinants theories of government innovation will emphasize variables that seem especially relevant for explaining the adoption of *new* programs. This means that we will not discuss a wide range of factors widely believed to influence both innovative and routine policymaking.¹⁹ For example, citizen and elite ideology are frequently hypothesized to influence the adoption of many programs that reflect traditional liberal-conservative cleavages (e.g., Mooney and Lee 1995; Berry and Berry 1992; Sapart 2004). But their influence is not relevant to an understanding of policy innovation per se, because ideology is widely perceived to influence routine or incremental policy choices as well (Hill, Leighly and Andersson 1995; Clingermayer and Wood 1995).²⁰

Factors Reflecting the Motivation to Innovate. Numerous scholars have hypothesized that problem severity is an important determinant of the motivation to innovate. Problem severity can influence the motivation of state officials to adopt a policy directly by clarifying the need for the policy, or indirectly by stimulating demand for the policy by societal groups. For instance, Allard (2004, p. 529) maintains that poor economic conditions contributed to the adoption of Mothers' Aid programs by increasing "demand and need for assistance." Similarly, Stream (1999) proposes that the rate of uninsurance among a state's population influences the likelihood that the state will adopt a set of health insurance reforms. Also, Mintrom and Vergari (1998, p. 135) argue that the greater the ratio of state education funding to local funding, the more likely that a state legislature will consider "systemic reform like school choice."

Social scientists often assume that the principal goal of elected officials is to win reelection (e.g., Mayhew 1974; Kiewiet and McCubbins 1985). Although this assumption suggests that elected officials should be responsive to public opinion when deciding whether to adopt a new policy, the response should vary with the level of electoral security of state officials: the more insecure they feel, (1) the more likely they are to adopt new policies that are popular with the electorate, and (2) the less likely they are to adopt new policies that are widely unpopular, or at least sufficiently unpopular with some segment of the electorate to be deemed

controversial. Two corollaries of this proposition have frequently been introduced in the state innovation literature. One relates to interparty competition. Walker (1969) argues that politicians anticipating closely contested elections are especially likely to embrace new programs to try to broaden their electoral support. Implicit in this hypothesis is that the new programs are popular with the public. In the case of unpopular programs (like the imposition of a new tax), electoral competition is likely to reduce the probability that a state's politicians will support the program.

Politicians' levels of electoral security also vary with the amount of time until their next election. Reasoning similar to the above suggests that the closer it is to the next statewide election, the more likely a state is to adopt a new popular program and the less likely it is to adopt an unpopular new policy or one that is highly controversial. This proposition has received support in the case of highly popular state lotteries (Berry and Berry 1990), very unpopular mandatory taxes (Mikesell 1978; Berry and Berry 1992), and controversial school choice initiatives (Mintrom 1997).

Obstacles to Innovation and the Resources Available to Overcome Them.

Theories of individual and organizational innovation have stressed the importance of financial resources (i.e., wealth and income levels for individuals and "slack resources" for an organization) and other characteristics (e.g., a high level of education for an individual and large size for an organization) reflecting the capability of the potential adopter to innovate. Similar kinds of resources are often held to be critical for government innovation.

Some new government programs require major expenditures, and therefore the availability of financial resources is a prerequisite for adoption. Thus, one can hypothesize that the fiscal health of a state's government often has a positive impact on the propensity of a state to adopt a new policy (Allard 2004; Lowry 2005).²¹ Analogous to the notion of highly capable individuals or organizations is the concept of states with strong governmental capacity. Walker (1969), Sigelman and Smith (1980), Andrews (2000), and McLendon, Heller and Young (2005) maintain that states having legislatures that give their members generous staff support and extensive research facilities should be more likely to adopt new policies than states with less professionalized legislatures, and Brooks (2005) posits that party fragmentation is inversely related to the likelihood of innovation.²² Alternatively, it can be argued that the capacity of a state's economy to finance extensive public services is the ultimate determinant of the state's propensity to innovate (Daley and Garand 2005). Such capacity is reflected by several measures of economic development common in the literature, including per capita income, gross domestic product, and level of urbanization.

Walker (1969, p. 884) suggests that states with high levels of economic development have a greater probability of adopting even those policies which do not require large budgets (e.g., enabling legislation for zoning in cities or a state

council on the arts), partly due to their greater adaptivity and tolerance for change. Furthermore, Wagner (1877; see also Mann 1980; Berry and Lowery 1987) hypothesizes that economic development prompts increased demand for government services. Greater personal income by a state's citizens leads them to demand governmental services that might be considered luxuries when personal income is low. Similarly, greater urbanization and industrialization lead to social problems that often require "collective" governmental solutions (Hofferbert 1966).

Others have argued that, although adequate financial resources are a prerequisite for government innovation, individuals who advocate policy ideas and are willing to devote their energies to pushing these ideas can be critical to the adoption of a new policy. Most of the scholarly attention to the importance of so-called policy entrepreneurs, both inside and outside of government, has focused on their role in agenda setting (Kingdon 1984; Baumgartner and Jones 1993; Schneider, Teske and Mintrom 1995). But recently, Mintrom (1997; see also Mintrom and Vergari 1996) offers evidence of the importance of policy entrepreneurs in facilitating the adoption of school choice initiatives in the states.²³ Similarly, Sabatier and Jenkins-Smith (2006) argue that *advocacy coalitions*—coordinated groups of governmental officials, activists, journalists, researchers, and policy analysts—can be crucial in paving the way for policy adoptions.²⁴

Indeed, several theorists, recognizing the rarity of government innovation, have argued that innovation can be expected to occur only in the unusual case wherein various independent conditions happen to occur simultaneously. Kingdon (1984, chap. 8) speaks of policy windows—rare periods of opportunity for innovation—that are created when a new political executive takes office, an important congressional committee chair changes hands, and/or some event or crisis generates an unusual level of public attention to some problem. He argues that policy entrepreneurs consciously wait for such windows of opportunity to press their policy demands. In their study of tax adoptions, Berry and Berry (1992; see also Hansen 1983) argue that taxes tend to be adopted when several unrelated political and fiscal conditions converge to create a rare "political opportunity"; for example, the presence of a fiscal crisis in government occurring when the next election is not near and when one or more neighboring states has recently adopted a new tax.

A UNIFIED MODEL OF STATE GOVERNMENT INNOVATION REFLECTING BOTH INTERNAL DETERMINANTS AND DIFFUSION

We propose that models of state government innovation should take the following general form:

$$ADOPT_{i,t} = f(MOTIVATION_{i,t}, RESOURCES/OBSTACLES_{i,t}, OTHER-POLICIES_{i,t}, EXTERNAL_{i,t}) \quad [\text{Equation 3}]$$

The unit of analysis for this equation is the American state eligible to adopt a policy in a particular year (t). The dependent variable— $ADOPT_{i,t}$ —is the probability that state i will adopt the policy in year t . $EXTERNAL_{i,t}$ denotes variables reflecting diffusion effects on state i at time t ; thus, these variables would measure the behavior of other states (or the national or local governments) at time t , or in the recent past.

The remainder of the terms in the function f are internal determinants. $MOTIVATION_{i,t}$ represents variables indicating the motivation of public officials in state i at time t to adopt the policy; these variables would include the severity of the problem motivating consideration of the policy, the character of public opinion and electoral competition in the state, and other ad hoc motivation factors. $RESOURCES/OBSTACLES_{i,t}$ denotes variables reflecting obstacles to innovation and the resources available for overcoming them. For many policies, the state's level of economic development and the professionalism of its legislature would be among the variables included. Factors indicating the presence (and skill) of interested policy entrepreneurs, or the strength of advocacy coalitions, in a state could also be included.²⁵ Finally, $OTHERPOLICIES_{i,t}$ is a set of dummy variables indicating the presence or absence in state i of other policies that have implications for the likelihood that the state will adopt the new policy.

The impacts of previous policy choices on the probability of adopting a new policy have virtually been ignored in the empirical literature on state government innovation, but we contend that models of policy innovation must recognize the effects of one policy choice on another. Mahajan and Peterson (1985, pp. 39–40) identify four types of "innovation interrelationships": innovations may be (1) independent, (2) complementary, (3) contingent, or (4) substitutes. This typology has relevance for explaining state policy adoptions.

If we are seeking to explain the adoption of policy B, and policy A is largely independent of B (in the sense that a state's probability of adopting B is unaffected by whether it has already adopted A), obviously we need not concern ourselves at all with policy A. But policies of the other three types are not so safely ignored. Sometimes two policies are complementary: the adoption of policy A increases the probability that a state will adopt policy B. For example, a state that has previously chosen to license one type of auxiliary medical practitioner (such as physician assistants) may have created a precedent that would make it more likely that advocates of licensing other auxiliary personnel (such as nurse practitioners) will be successful. If so, a model designed to explain state licensing of one type of medical practitioner should include an explanatory variable indicating whether a state has previously adopted licensing of some other type of auxiliary medical personnel.

Note that a positive relationship between the probability of adoption of policy B and the presence of policy A can exist without A and B being complementary if the relationship is spurious—resulting from both policies' adoptions being influenced by a common set of variables. For example, if the probability that a state

will adopt one type of welfare reform is positively related to the presence of another similar type of reform, yet that relationship is exclusively due to the fact that the same kinds of causal forces are at work in the adoption of both policies, the two welfare reforms should not be viewed as complementary. Only when the adoption of one policy changes conditions in a state so as to make the state more receptive to the other policy would we term the two policies complementary.

Another possibility is that policy B's adoption is contingent on the previous adoption of policy A, in which case the probability that a state will adopt B is zero until the state adopts A. Brace and Barrilleaux (1995) present a theory of state policy reform designed to explain changes in existing programs in a variety of policy areas. The adoption of many of these policy changes is contingent on a state's previous adoption of the program being reformed. In this case, the units of analysis must exclude each state in all years prior to its adoption of the initial legislation.²⁶

A final alternative is that policy A is a substitute for policy B. When A is an *exact* substitute for B, completely precluding the possibility of adopting B, the solution is to exclude from the units of analysis those state-years in which A is present. However, exact policy substitutes are rare; partial substitutes are more likely. In this case, the adoption of A does not preclude the adoption of B; it only reduces its likelihood. For instance, it may be that different "school-choice" plans currently being considered by states are partial substitutes. One possibility is that states create charter schools in an attempt to diminish the prospects that a more "radical" program—such as school vouchers—will be adopted. In this case, a state's previous adoption of a charter school program would lower the probability that the state would establish a voucher program.²⁷

A recognition that some policies are substitutes suggests that we should also entertain models that involve more complex dependent variables than the probability that an individual policy will be adopted (*ADOPT*, in Equation 3). Sometimes it might be best to assume that a state makes a choice between multiple alternatives. For example, Berry and Berry (1992) studied the adoption of sales and income taxes separately, assuming for each that states without the tax may choose to adopt or not in any year. But it may more accurately reflect the process of decisionmaking to conceptualize states that have neither tax in any year as having three choices: adopt a sales tax, adopt an income tax, or adopt neither.²⁸

Another way in which a conceptualization of a dependent variable can oversimplify reality is by failing to distinguish between what Glick and Hays (1991, p. 836; see also Downs and Mohr 1976) refer to as "superficial" and "deep" adoption. For example, two states might adopt an anti-discrimination program (in housing or the workplace), one of which is largely symbolic, whereas the other involves an extensive commitment of resources through investigatory and enforcement actions. Calling them both anti-discrimination programs and treating them as functionally equivalent may mask variation essential for understanding the innovation process at work.

Some of the variation in the “depth” of a policy adoption may be due to what Glick and Hays (1991; see also Clark 1985) call policy *reinvention*. Implicit in the notion of reinvention is a diffusion model, which justifies the states’ emulation of other states’ policies by an assumption that states learn from each other. This learning model is more sophisticated than those discussed above, however, because it assumes that states use information about the impacts of a policy in other states not only to assist them in deciding whether to adopt the policy but to help them refine the policy in light of the other states’ experiences. In turn, early adopters can reform their policies to take advantage of the experiences of late adopters who passed a modified version of the initial policy.²⁹

EARLY APPROACHES TO TESTING INTERNAL DETERMINANTS AND DIFFUSION MODELS

Prior to 1990, the literature on state government innovation was dominated by empirical research testing (1) internal determinants explanations that assume no diffusion occurs, or (2) diffusion models that assume no effects of internal determinants. Berry (1994b) argues that each of the three major models of government innovation—internal determinants, national interaction, and regional diffusion—is associated with a distinct methodology for empirical testing and explores the ability of these techniques to detect the true innovation process underlying policy adoptions. She does this by applying the methodologies to data generated from simulated innovation processes with known characteristics. Berry’s results, which we summarize here, paint a very pessimistic picture of the ability of the traditional methodologies to help us understand state government innovation.³⁰

Testing Internal Determinants Models

Internal determinants models were traditionally tested with cross-sectional regression (or probit or discriminant) analysis (e.g., Regens 1980; Glick 1981; Canon and Baum 1981; Filer, Moak, and Uze 1988). The dependent variable was a measure of how early a state adopted one or more policies (or whether or not some policy had been adopted by a certain date), whereas the independent variables were political and socioeconomic characteristics of the states.

Several problems with this cross-sectional regression strategy are immediately apparent. The first pertains to the year for observing independent variables. If one measures the independent variables in a year that is later than some states’ adoptions, one winds up attempting to account for the behaviors of these states with variables measured after the behavior has occurred. Thus, the only logical alternative is to measure the independent variables in the year that the *first* state adopts (or some earlier year). But when adoptions of the policy are spread over many years, this approach requires an implausible assumption that late-adopting

states' behavior can be explained by the characteristics of those states many years prior. Moreover, the cross-sectional approach to testing an internal determinants model does not permit an assessment of the effects of variables that change substantially over time; each state is a single case in the analysis, having a fixed value for each independent variable. Finally, although the cross-sectional approach is suitable for testing an internal determinants model in which the propensity to adopt is defined as the "earliness of adoption," a cross-sectional model cannot be used if the dependent variable is conceptualized as the probability of adoption in a particular year.

In addition to these limitations, Berry finds that the cross-sectional approach to testing internal determinants models cannot be trusted to discern whether the adoptions of a policy by states are actually generated by internal determinants. She finds, for example, that simulated policy adoptions generated out of a *pure* regional diffusion process—with no impact at all by internal state characteristics—tend to exhibit evidence of internal determinants when a traditional cross-sectional model containing independent variables frequently used in the literature is estimated. The empirical problem is that states near each other tend to have similar values on many political and socioeconomic characteristics of states. Thus, policies that diffuse regionally—say by being passed to bordering states—tend to yield an order of adoption by states that correlates highly with these internal characteristics.

Testing the National Interaction Model

As noted earlier, the national interaction model was traditionally tested using time-series regression to estimate a model in the form of Equation 2. However, Berry finds that this regression approach cannot reliably discern whether a policy's adoptions are the result of national interaction. In particular, when data for simulated policy adoptions generated either (1) by a pure regional diffusion process, or (2) solely as a result of internal determinants are used to estimate Equation 2, the results often support the hypothesis that the policies spread via a national interaction process.

The empirical problem here is that, for any policy for which a graph of the cumulative proportion of states having adopted against time approximates an S-shape similar to Figure 8.1, the regression approach will generate support for the national interaction model. Unfortunately, this S-shape will result from *any* process that produces a period of infrequent adoptions followed by a period of more frequent adoptions (which is inevitably followed by a tapering off in the rate of adoptions as the number of remaining potential adopters declines). Policies that diffuse regionally can produce this adoption pattern. Even policies that are adopted as independent responses to internal state conditions can. Consider, for example, a policy that is most likely to be adopted by states with healthy economies; if a national economic boom cycle lifts the economies of all states,

adoptions by many states may be clumped together to produce a period of frequent adoptions sandwiched by periods with less frequent adoptions.

Testing Regional Diffusion Models

The classic approach to testing regional diffusion models was Walker's (1969; see also Canon and Baum 1981) factor analytic technique. Walker used factor analysis to isolate groupings of states that have similar orders of adoption for eighty-eight policies. He then observed that the groupings coincide with regional clusters of states, which he interpreted as empirical evidence for regional diffusion.

Berry simulates state adoptions of 144 policies, each diffusing regionally based on a pure neighbor model. When the data for these 144 policies are factor analyzed according to Walker's procedure, there is strong support for the regional diffusion proposition. Thus, Berry finds evidence that Walker's methodology correctly identifies neighbor-to-neighbor diffusion when it exists. Our hunch is that the methodology also successfully shows support for the regional diffusion hypothesis when employed with policies that diffuse via fixed-region diffusion. If we are correct, the good news would be that factor analysis reliably detects diffusion when it exists in either of two prototypic forms: neighbor to neighbor, or in fixed regions. But the bad news would be that the technique is not able to distinguish the two similar—but still distinct—types of regional diffusion. Even more disconcerting is that Berry finds that Walker's methodology yields support for the regional diffusion hypothesis when applied to simulated policies known to diffuse via a pure national interaction model with no regional element whatsoever. She also finds evidence that policy adoptions generated purely as a result of internal determinants can indicate the presence of regional diffusion when an alternative single-explanation methodology is used.³¹

TESTING A UNIFIED MODEL OF STATE GOVERNMENT INNOVATION REFLECTING BOTH INTERNAL DETERMINANTS AND DIFFUSION USING EVENT HISTORY ANALYSIS

State politics scholars have developed a number of explanations for the adoptions of new policies by the American states. These include both internal determinants models and a range of diffusion models pointing to the influence of states on one another. Dating back to early path-breaking studies on policy innovation and diffusion by Walker (1969) and Gray (1973a), scholars have recognized that these various models are not mutually exclusive, that a state may adopt a new policy in response to both conditions internal to the state and the actions of other states. Prior to 1990, however, when conducting empirical analysis, these same scholars ignored the nonexclusive nature of these explanations by analyzing them in isolation. Of course, analysts did not purposely misspecify their models; rather, the

arsenal of methods commonly used by social scientists prior to the 1990s did not permit proper specification.

Unfortunately, Berry's (1994b) simulation results show that the discipline's pre-1990 compartmentalized approach to testing the various explanations of government innovation calls into question the empirical evidence about these explanations from this era. Berry finds no evidence of "false negatives," that is, no reason to believe that the early tests for the presence of regional diffusion, national interaction, and the impact of internal determinants fail to discern these processes when they are present. But she does find a disturbing pattern of "false positives"—a tendency for the methodologies to *find* regional diffusion, national interaction, or the effect of internal determinants when no such influence actually exists. In 1990, Berry and Berry developed a model of the adoption of state lotteries taking the form of Equation 3, positing that a state's propensity to adopt a lottery is influenced by forces both internal and external to the states, and they tested it using event history analysis. In the next section, we summarize Berry and Berry's event history analysis model. Then we examine a variety of important refinements that other scholars have introduced as the literature has developed. Since 1990—but especially since the turn of the century—event history analysis has been employed across a wide variety of policy arenas to test a model of state innovation reflecting both internal determinants and interstate diffusion; the Appendix lists some of these studies.³²

Berry and Berry's (1990) Event History Analysis Model

Event history analysis is an ideal methodology for estimating the coefficients of an innovation model taking the form of Equation 3 (Box-Steffensmeier and Jones 2004). In event history analysis, we conceive of a *risk set*, the states that (at any point in time) are at risk of adopting the policy in question. In a discrete-time model, the period of analysis is divided into a set of discrete time periods, typically years. The dependent variable—the probability that a state in the risk set will adopt during year t —is not directly observable. However, we can observe for each state in the risk set whether the state adopts the policy in the given year (typically coded 1) or not (scored 0). For policies that can be adopted by a state only once, states fall out of the risk set after they adopt the policy; thus, for each state that adopts during the period of analysis, the time-series for the dependent variable is a string of zeros followed by a single 1 in the year of adoption. Given data for the states in the risk set over a period of years, the event history model, having a dichotomous observed variable, can be estimated using logit or probit maximum likelihood techniques.³³

The maximum likelihood estimates of the coefficients for the independent variables in the event history model offer information on the predicted impacts of these variables on the propensity of states in the risk set to adopt the policy. Using procedures common in the analysis of probit and logit results, the coefficient

estimates can, in turn, be used to generate predictions of the probability that a state with any specified combination of values on the independent variables will adopt the policy in a given year. Furthermore, one can estimate the change in the probability of adoption associated with a specified increase in the value of any independent variable when the remaining independent variables are held constant (Tomz, Wittenberg, and King 2003). Such estimated changes in probability yield easily interpretable estimates of the magnitude of the effect of the independent variable.

Berry and Berry (1990) employ event history analysis to test a model of state lottery adoptions. Their model includes internal determinants reflecting the motivation of politicians to adopt a lottery (e.g., the proximity to elections), the obstacles to innovation (e.g., the presence of a sizable population of religious fundamentalists), and the presence of resources for overcoming obstacles (e.g., whether there is unified political party control of government), as well as a variable specifying interstate diffusion—the number of previously adopting neighboring states.

Recent Refinements to Event History Modeling of State Policy Innovation

In event history studies of state policy innovation conducted since 1990, the inclusion among the independent variables of the number (or percentage) of contiguous states that have previously adopted a policy remains the most common specification of diffusion (e.g., Mintrom 1997; Hill 2000; Balla 2001; Allard 2004; Chamberlain and Haider-Markel 2005; Langer and Brace 2005; Allen 2005). But recent event history studies have specified several alternative forms of diffusion. Mooney and Lee (1995), Andrews (2000), and Allen, Pettus, and Haider-Markel (2004) have modeled fixed-region diffusion by defining regions of the country and including a measure of the percentage (or number) of states from a state's region that have previously adopted. Balla (2001) includes a measure of whether a state's insurance commissioner sat on a committee with jurisdiction over the regulation of HMOs in a model predicting the adoption of model legislation proposed by the committee. Allen, Pettus, and Haider-Markel's (2004) study of the adoption of truth-in-sentencing laws specifies vertical influence, with a variable indicating whether the national government had passed 1994 legislation creating financial incentives for states to adopt.

Event history analysis is flexible enough to model other forms of policy diffusion as well. Our earlier suggestion to allow for the greatest influence by i 's neighbors, yet some influence by other nearby states (an effect that diminishes with the distance from i), can be operationalized by constructing a dummy variable for each state (1 if a state has adopted the policy, 0 if not) and taking a weighted average of these dummies across states, where the weights are proportional to the distance from state i . Leader-laggard diffusion can be modeled with a dummy variable

indicating whether state i 's presumed "leader" has already adopted the policy. Even the thorough mixing of states assumed by the national interaction model can be specified in an event history model; the independent variables would include the percentage of the fifty states that has previously adopted the policy. However, we do not recommend this approach, preferring that scholars develop more realistic formulations of national interaction.

Although the above event history specifications of diffusion reflect a variety of channels of intergovernmental influence, empirical support for these specifications fail to shed light on the reasons one government emulates the actions of another. Two recent papers have sought to overcome this weakness of previous research by designing models to determine whether interstate diffusion is due to policy learning or economic competition. In a study of Indian gaming innovation, Boehmke and Witmer (2004) claim that *learning* should influence the signing by a state of its first Indian gaming compact, but not the subsequent expansion of these compacts. In contrast, *competition* should influence both the initial signing of a compact and ensuing expansion. Boehmke and Witmer use generalized event count regression to estimate models of the number of compacts signed by a state in a year, and they find evidence of both learning and competition. Berry and Baybeck (2005) argue that, if a state adopts a lottery due to policy learning, its response to neighboring states' adoptions will be the same regardless of the location of the state's population within its borders. If, however, the state adopts a lottery to prevent a loss of revenues when its residents cross state borders to play other states' lotteries (i.e., competition), its response to neighboring states' adoptions will vary depending on the distance of its residents from other states with lotteries (and, thus, the ease with which residents can travel to the other states). Berry and Baybeck use geographic information systems (GIS) software to measure the concern of state officials about residents going to other states to play the lottery based on the location of the state's population, and employ this variable in a model of state lottery adoption to assess the presence of economic competition. Their empirical analysis shows that the diffusion of the lottery occurs due to competition rather than policy learning.

Our general model of state innovation—Equation 3—includes a set of variables ($OTHERPOLICIES_{i,t}$) indicating the presence or absence of other policies influencing the likelihood that a state will adopt the new policy, but early applications of event history analysis did not incorporate this aspect of Equation 3. Several recent studies have tested models incorporating the impacts of other policies. Balla's (2001) analysis of the adoption of the HMO Model Act includes a variable indicating whether a state had previously adopted another model act complementary to the HMO legislation. Soule and Earl (2001) test whether the propensity of a state to adopt a hate crime law is influenced by whether the state had adopted other hate crime legislation.

Berry and Berry's (1990, 1992, 1994) initial applications of event history analysis to the study of state policy innovation assumed that the probability of

adoption is constant over time. Yet, it is unlikely that the true policy process occurring in states conforms to this assumption. For instance, the pressure to adopt a new policy—and hence the probability of adoption—can increase gradually over time as coalitions designed to promote the policy are built. Similarly, when intense efforts to secure adoption of a policy fail in a year, the probability of adoption may be reduced the year following as advocates of the policy tire of the battle and decide to marshal their resources for the future. More recent studies have allowed the probability of adoption to vary over time (i.e., have allowed for “duration dependence”) using strategies suggested by Beck, Katz, and Tucker (1998) and Buckley and Westerlund (2004); they include dummy variables for time periods, or a time counter (or some transformation of time—e.g., the natural logarithm or cubic smoothing splines) among the independent variables.

The vast majority of event history innovation studies have confined their attention to a nonrepeatable event—the adoption of a policy or program that can occur only once—so that, after a state adopts, it is no longer at risk of adoption. Jones and Branton (2005) note that event history analysis is also applicable to modeling state innovation when multiple policies can be adopted, so that states remain at risk for adoption after their first adoption. Berry and Berry (1992) offer an example of this form of repeated-event event history analysis in their study of state tax innovation, in which the observed dependent variable is a dichotomous indicator of whether *any* new tax is adopted in a year. Boehmke and Witmer (2004) specify an innovation model in which multiple events (e.g., a state signing an Indian gaming compact) may occur in the same year and estimate it with generalized event count regression. This alternative to event history analysis is appropriate when it is reasonable to assume that variation in the number of adoptions in a year yields substantively meaningful information about the “extent” or “degree” of adoption.

Volden (2006) recently introduced directed-dyad event history analysis into the study of state policy innovation. In traditional event history analysis, the unit of analysis is the state-year, and each state is included in the dataset during each year it is at risk of adopting the policy. With directed-dyad event history analysis, the unit of analysis is the dyad-year—where a dyad refers to a pair of states—and the dependent variable measures whether one state in the pair emulates the policy of the other state. As a consequence, directed-dyad event history analysis can be enormously valuable in tracing the way a policy diffuses from one state to another.

CONCLUSION

Over the last three decades, social scientists have proposed numerous theories to explain policy adoptions by the American states. These theories include internal determinants explanations and a variety of diffusion models that point to cross-state channels of influence. When cast in isolation, these theories are drastically oversimplified models of policy innovation. Prior to 1990 these models were

tested individually, using techniques prone to result in deceptive conclusions (Berry 1994b). However, the logic of internal determinants models and the various diffusion explanations are not incompatible. In the last decade and a half, scholars have developed models that allow for the simultaneous impacts of internal political, economic, and social characteristics of states as well as multiple channels of regional and national cross-state influence—and then tested these models using event history analysis. (The Appendix lists numerous studies of policy adoptions by American states that have developed and tested such models.)

Furthermore, since the turn of the century, policy scholars have developed similar models to explain policy adoptions by other types of governments. Some have examined subnational governments in the United States and abroad (Lubell et al.'s [2002] study of local watershed partnerships; Hoyman and Weinberg's [2006] research on county governments in North Carolina; Ito's [2001] analysis of Japanese prefects). There have also been numerous applications by comparativists seeking to explain the diffusion of economic liberalization across nation states in Latin America (Meseguer 2004; Jordana and Levi-Faur 2005), western Europe (Gilardi 2005), or the world (Simmons 2000; Simmons and Elkins 2004; Brooks 2005; Way 2005). This recent work illustrates the wide applicability of a model taking the form of Equation 3. In this essay, we propose a framework for analysis to guide the further development and refinement of such models.

Nevertheless, even achieving the greatest imaginable success in the development and testing of innovation models taking the form of Equation 3 would not yield a satisfactory theory of the *overall* policymaking process. This may distinguish our proposed approach to policy innovation and diffusion research from some of the other theoretical approaches discussed in this volume, especially the Advocacy Coalition Framework (ACF) (Sabatier and Jenkins-Smith 2006). By proposing that innovation models take the form of Equation 3, we are recommending that scholars de-emphasize the global concept of innovativeness on a wide range of policies and focus attention on explaining the propensity of states to adopt *specific* policies and programs. Though we believe that explanations for adoptions must recognize the complexity of the policy process (the importance of intergovernmental influences and the key roles played by policy activists inside and outside of government), our focus is inherently more narrow than the ACF's focus on the comprehensive analysis of policy subsystems.

Is our narrow focus an advantage or disadvantage? The debate will only be settled as scholars conduct research about policymaking at varied levels of generality and we see what insights the different approaches yield. But we would note that the complexity faced by students of policymaking is not unique. For instance, there is no widely accepted general theory of the political behavior of individual citizens. It would be difficult to argue that an individual's vote choice in a single election (whether to vote and, if so, for whom) is a discrete event independent from a larger longitudinal process of attitude development in which ideology,

partisan identification, candidate evaluations, and specific issue positions change. Yet this recognition does not prevent scholars from investigating the factors that influence vote choice by doing research on specific individual elections. Similarly, the fact that discrete policy adoption events by states are not independent from a larger longitudinal and intergovernmental process of policymaking should not deter us from studying discrete policy adoptions as a vehicle for understanding the broader process.

When models in the form of Equation 3 are tested, they are capable of answering important questions about the conditions that promote and impede the adoption of new government policies. For example, those interested in the impact of electoral security on the policymaking behavior of public officials learn from Berry and Berry's (1992) analysis of state tax innovation that, when other independent variables are held constant at central values within their distributions, the probability that a state will adopt a gasoline tax is only .03 during a gubernatorial election year but grows to .42 in the year immediately following an election.³⁴ When accompanied by similar findings regarding the adoption of other types of taxes, this is powerful evidence that elected officials establish their tax policies with an eye toward electoral security. Moreover, the specific empirical finding about probabilities of adoption offers an easily interpretable measure of the *strength* of the effect of politicians' electoral security on state tax policy.

We do recognize that the data requirements for our approach to innovation research are substantial. Testing a model in the form of Equation 3 requires pooled data; independent variables must be observed for each state in each year during the period of analysis. Data collection is especially challenging when the independent variables go beyond aggregate state characteristics to include the nature and behavior of policy entrepreneurs, interest groups, and advocacy coalitions. However, research by Mintrom (1997) shows that the collection costs are not insurmountable. Moreover, the Appendix shows that the hurdle imposed by the need for pooled data has been overcome by many scholars using event history analysis and analyzing dozens of different policies and programs.

When key concepts central to one's theory of government innovation cannot be observed for all states over a period of years, what should be done? Berry's simulation results show clearly that a return to the more traditional research strategies is unacceptable. Although the traditional methodologies (cross-sectional analysis to test internal determinants models, time-series regression to test national interaction models, and factor analysis to test regional diffusion models) are less demanding in their need for data, they yield untrustworthy empirical results. When it is not feasible to measure important variables for as many units as pooled state data analysis requires, the only reasonable alternative is to sacrifice the benefits available from large-sample quantitative research for the gains secured by intensive analysis of a small number of cases via case studies or small-sample comparative designs. The theories need not change—only the approach to empirical testing.

NOTES

1. For a review of the literature on incremental decisionmaking, see Berry (1990).
2. Rogers (1983, chap. 2) discusses numerous examples of research on innovation at the individual level.
3. Walker calls what we term his “internal determinants model” an analysis of the “correlates of innovation.”
4. Richard Rose (1993) refers to learning as “lesson-drawing.” For a provocative discussion of the role of learning in the diffusion of social policy across Western nations, see Heclo (1974).
5. Whether firms do indeed move in response to various financial incentives and poor people actually move in search of greater welfare benefits are empirical issues. But note that state officials may *perceive* that such behaviors occur and make policy choices for this reason, even if the behaviors do not occur.
6. Since ΔN_t denotes the proportion of new adopters during time period t and $L - N_{t-1}$ is the proportion of potential adopters who have not adopted by the beginning of time period t , bN_{t-1} must represent the proportion of remaining potential adopters that actually adopt in time period t . Alternatively, bN_{t-1} can be viewed as the probability that an individual who has not yet adopted prior to time period t will do so during t . Those familiar with calculus should note that Equation 1 can be cast in continuous terms by defining $N(t)$ as the cumulative number of adopters at time t , defining L as the total number of potential adopters, and specifying (see Mahajan and Peterson 1985) that $dN(t)/dt = bN(t-1) [L - N(t)]$.
7. Since there is no “constant” term in Equation 2, the model predicts that the regression intercept is zero.
8. Gray (1973b) recognizes that the national interaction model’s assumption of a thorough mixing of states is unrealistic, but she adopts a position of methodological nominalism (Friedman 1953), arguing that the essential issue is not whether the assumption is realistic but whether it sufficiently approximates reality to be useful for explanation.
9. This “inequality of esteem” across states was observed by Grupp and Richards (1975) in their survey of upper-level state administrators.
10. Volden (2006) posits that successful policies are more likely to diffuse across states than ones that have failed. This proposition relies on logic similar to the leader-laggard model. Presumably, highly esteemed states are perceived as the ones most likely to adopt successful policies.
11. Hierarchical models—based on population rather than economic development—originated in geographers’ theories of the diffusion of product and cultural innovations among individuals. The models predicted that such innovations tend to flow from more populated cities to less populated rural areas (Hagerstrand 1967; Blaikie 1978).
12. This reasoning parallels individual-level diffusion models that assume people are most likely to emulate the innovations of persons who share common beliefs, education, and social status (Rogers 1983, pp. 274–275).

13. Implicitly presenting an alternative vertical influence model that reverses the standard direction of influence, Nathan (1989, pp. 16–17) points out that various national New Deal programs were copies of 1930s state-level programs. Rockefeller (1968) and Boeckelman (1992) also use historical evidence to support the claim that the federal government uses states as learning laboratories.

14. Rogers (1983, p. 20) views *knowledge* as the first stage in the “innovation decision-process.”

15. Using the traditional terminology of event history analysis, the unit of analysis is the American state *at risk* of adopting.

16. This is also true of diffusion models, which by their very nature focus on the spread of a single policy.

17. For a review of the research on the determinants of individual innovativeness, see Rogers (1983, pp. 251–263).

18. Taxation may be unique in this regard. Adopting a new tax instrument may be closer to routine policymaking than adopting most other major new policies, since most proposals for new policies face the difficult task of finding a spot on a crowded governmental agenda; governments’ need for revenue gives the issue of tax policy a permanent place on the agenda.

19. For a review of a variety of factors found to influence state public policy outputs in cross-sectional quantitative studies, see Blomquist’s (2006) chapter in this volume.

20. Moreover, the effect of ideology on innovation varies across policies. For example, a high level of liberalism should promote the adoption of new social welfare initiatives but impede the adoption of conservative criminal justice programs inconsistent with liberal ideology.

21. Brooks (2005) advances a similar proposition in a cross-national study of pension privatization. Yet, for some policies, it is actually *poor* fiscal health that contributes to an increase in the likelihood of adoption. Such situations have occurred with state taxes (Berry and Berry 1992) and industrial policies designed to attract new business to a state (Gray and Lowery 1990). For conceptual and operational definitions of “fiscal health,” see Reeves (1986), Ladd and Yinger (1989), and Berry and Berry (1990).

22. Similarly, Sapat (2004) hypothesizes that the level of administrative professionalism influences the probability of adoption of environmental policy innovations by state administrative agencies, and Kim and Gerber (2005) propose that the capacity of a state public utility commission—as reflected by the amount of discretion granted to the commission— influences its probability of adopting regulatory reforms.

23. Note also Allen’s (2005) study of the impact of non-economically focused interest groups on the adoption of state animal cruelty felony laws, Soule and Earl’s (2001) research on the impact of the presence of the Anti-Defamation League in a state on the prospects for adoption of hate crime legislation, and Allard’s (2004) analysis of the impact of women’s group activities on the adoption of state Mothers’ Aid programs in the early 1900s.

24. The character and activities of advocacy coalitions—which are presumed to consist of numerous individuals across the American states—might be conceived as factors

influencing state government innovation that are neither purely “internal” nor “external” to states.

25. Some might argue that it is not feasible to measure accurately the presence or strength of entrepreneurs and advocacy coalitions when doing a fifty-state analysis. But Mintrom (1997) develops such measures for school-choice entrepreneurs in the American states.

26. Mintrom (1997) exhibits similar reasoning by constructing an equation predicting the probability that a state will *consider* a school choice proposal, and then a second equation predicting the probability that a state considering the proposal will actually *adopt* it. In our terminology, Mintrom assumes that policy adoption is contingent on preliminary policy consideration.

27. An alternative proposition is that a charter school program and a school voucher policy are complementary: when a state adopts one type of school choice reform, the political environment is changed, and the state becomes more amenable to other school-choice initiatives. Presumably, empirical analysis could resolve these competing hypotheses.

28. Innovation processes that allow for a choice among three or more policies can be specified using a multinomial logit model (Greene 1993) or a variant of a Cox duration model (Jones and Branton 2005).

29. Models that allow for variation across states and over time, not only in the probability of adoption of a policy but also in the content of the policy, are beyond the bounds of the framework for research reflected in Equation 3.

30. The rest of this section draws extensively from Berry’s (1994b) results.

31. The method is an event history model (like those described in the next section of this paper) with a single independent variable: the number of bordering states that have previously adopted.

32. The high level of recent activity in this subfield is reflected in the fact that thirty-three of the forty-two articles listed in the Appendix had not yet been published when we were preparing this paper for the first edition of this volume in 1997.

33. For a more detailed discussion of event history analysis, see Box-Steffensmeier and Jones (2004), Allison (1984), and Buckley and Westerland (2004).

34. The period of analysis is historical: 1919–1929.

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Appendix

Published Studies Using EHA to Test a Model of Innovation Reflecting Both Internal Determinants and Intergovernmental Diffusion

- Berry and Berry (1990): lotteries
Berry and Berry (1992): taxes
Alm, McKee, and Skidmore (1993): lotteries
Berry (1994a): strategic planning by state agencies
Berry and Berry (1994): tax rate increases
Caudill et al. (1995): lotteries
Mooney and Lee (1995): abortion regulation reform
Hays and Glick (1997): living will laws
Mintrom (1997): school choice
Grattet, Jenness, and Curry (1998): state hate crime laws
Mintrom and Vergari (1998): school choice
Brace, Hall and Langer (1999): whether state supreme court hears a challenge
to a state statute on abortion access or funding
Erekson et al. (1999): lotteries
Pierce and Miller (1999): lotteries
Andrews (2000): electricity sector regulatory reforms
Hill (2000): grandparent visitation rights statutes
Mooney and Lee (2000): death penalty reform
*Simmons (2000): acceptance of International Monetary Fund rules
(Article VIII) by nations
Balla (2001): Health Maintenance Organization Model Act
Haider-Markel (2001): bans on same-sex marriage
*Ito (2001): various laws enacted by Japanese prefectoral governments relating
to the environment, freedom of information, and citizens with disabilities
Mooney (2001): lotteries, tax adoptions
Soule and Earl (2001): hate crime laws
Hill and Klarner (2002): direct democracy reforms
Ka and Teske (2002): electricity deregulation
*Lubell et al. (2002): local watershed partnerships
Satterthwaite (2002): managed care in Medicaid programs
Wong and Shen (2002): charter school legislation
Rosenson (2003): authorization of independent state legislative ethics
commissions
Allard (2004): mothers' aid programs
Allen, Pettus, and Haider-Markel (2004): truth-in-sentencing laws

(continues)

(continued)

- Boehmke and Witmer (2004): the signing of Indian gaming compacts
Buckley and Westerland (2004): lotteries
Grossback, Nicholson-Crotty, and Peterson (2004): lotteries, academic bankruptcy laws, sentencing guidelines
*Meseguer (2004): privatization in Latin American countries
Nicholson-Crotty (2004): corrections privatization
Sapat (2004): environmental policy innovations by state administrative agencies
*Simmons and Elkins (2004): adoption of economic liberalization policies by International Monetary Fund nations
Allen (2005): animal cruelty felony laws
Berry and Baybeck (2005): lotteries
*Brooks (2005): nations' adoptions of pension privatization
Chamberlain and Haider-Markel (2005): laws against the use of frivolous liens
*Gilardi (2005): creation of independent regulatory agencies in western European nations
Jones and Branton (2005): restrictive abortion laws, obscenity laws
*Jordana and Levi-Faur (2005): creation of regulatory agencies in Latin American nations
Kim and Gerber (2005): telephone regulation reform
Langer and Brace (2005): restrictive abortion laws; death penalty
McLendon, Heller, and Young (2005): higher education reforms
Preuhs (2005): English only laws
*Way (2005): financial system liberalization by nations
Bali and Silver (2006): electoral reform
*Hoyman and Weinberg (2006): prison sitings in rural North Carolina counties
Miller (2006): Medicaid nursing facility reimbursement reform
Volden (2006): Children's Health Insurance Program

Note: Unless otherwise indicated, a study analyzes the adoption of a policy or program by American states via legislation. Studies denoted with an asterisk (*) analyze adoptions of policies by governments other than American states (nations, local or regional governments in the United States, or subnational governments in other nations).

9

*The Policy Process and Large-N
Comparative Studies*

WILLIAM BLOMQUIST

The behavioral revolution brought several changes to American political science. One intended change within the field of comparative politics was to supplement or replace the traditional area-studies approach that featured thick descriptions of governments with multiple-unit studies of political systems and their operations and effects (Mayer 1989, p. 28). A related goal for political science generally was to focus research on public policy, shifting from descriptions of political institutions to analyses of their products.

Beginning in the early 1960s, political scientists pursuing both these aims began the subfield of comparative policy studies. Through the study of political systems and their policy products, these colleagues hoped to advance our understanding of comparative politics by examining the similarities and differences in the operation and effects of systems, and our understanding of the public policy process by finding the commonalities and differences among systems that might offer clues about how policies are generated and changed (Mayer 1989, pp. 43–49). Hopes were highest that such progress would come from studies involving a large number of cases and employing sophisticated data analysis techniques.

More than forty years have passed since the beginning of publications in comparative policy studies, conceived of as a disciplinary subfield. This chapter assesses the contribution of some of the work in that subfield to our understanding of the policy process, particularly, what we have learned about the policy process from large-*N* (twenty cases or more) comparative studies.

The substantial amount of published work in comparative policy studies (see the references at the end of this chapter) includes comparisons of policy outputs at the national, subnational, and local levels. This chapter will consider all of those types of studies, while focusing primarily upon large-*N* comparative studies that have involved the American states. If the subfield of comparative policy

studies has enhanced our understanding of the policy process, that contribution should be evident in the comparative state studies.

For pragmatic rather than theoretical or epistemological reasons, comparative state studies have been prominent in the comparative policy literature. Aggregate data of respectable quality are available for the American states concerning policy outputs, political activity and institutions, and economic, social, and cultural conditions. Cross-national studies face greater challenges in this regard (Leichter 1979, p. 71).¹ Even inter-local studies within the United States have data availability and comparability problems: reliable data on some variables are collected and reported for counties whereas those on other variables are collected and reported for cities, towns, townships, or metropolitan statistical areas. In addition, the governmental structures and policy responsibilities of the American states are more similar to one another than are those of countries, or of local governments within the United States.² In the words of two pioneers of comparative state policy research, "the fifty states share a common institutional framework and general cultural background, but they differ in certain aspects of economic and social structure, political activity, and public policy. Therefore, they provide a large number of political and social units in which some important variables can be held constant while others are varied" (Dawson and Robinson 1963, p. 265).

Finally, it is possible to include all of the states in a study, and the size and membership of the set has remained fixed for nearly a half century. Comparative state studies therefore allow one to avoid methodological arguments about which countries or local governments were selected for a study and on what basis.³

EMERGENCE OF THE SUBFIELD

Even if it were useful to do so, it probably would be impossible to identify a moment in which political scientists first became interested in the determinants of public policies. Broad inquiries into which types of political systems and social structures are associated with efficient or egalitarian or just public policies have forebears at least as ancient as Plato and Aristotle and would include de Tocqueville, Marx, and several others (Dawson and Robinson 1963).

The Watershed Year

It is possible, however, to identify a watershed year in large-*N* comparative policy studies. In 1963, Richard Dawson and James Robinson's article, "Inter-Party Competition, Economic Variables, and Welfare Policies in the American States," appeared in *The Journal of Politics*. Another cross-state study appeared in book form, Jerry Miner's *Social and Economic Factors in Spending for Public Education*, and an influential inter-local study by Maurice Pinard was published in the *American Journal of Sociology* on the relative influence of political behavior and community characteristics on the passage of fluoridation referenda in 262 communities.

Dawson and Robinson were careful to note their intellectual debt to small-*N* studies by V. O. Key and Duane Lockard about the relationship between state welfare policies and political variables such as the degree of inter-party competition.⁴ Dawson and Robinson's study encompassed forty-six states,⁵ used three measures of state welfare policies as dependent variables, and used as independent variables some political indicators such as measures of party competition and some indicators of state economic development. Their results are now well known to most policy scholars: although measures of party competition correlated weakly with measures of the welfare orientation of state policies, measures of economic development (per capita income, industrialization, and urbanization) correlated much more strongly. Dawson and Robinson concluded by raising the question of whether policy differences among the states might be more strongly influenced by "environmental" variables (those outside the political system, such as economic conditions) than by various aspects of politics.

The Politics-Versus-Environment Debate Joined

In a 1965 article in *The Journal of Politics*, Thomas Dye examined the relationships (or lack thereof) between legislative malapportionment and the degree of intra-state party competition, as well as between party competition and state welfare expenditures. Citing Dawson and Robinson's work, Dye added measures of per capita income and industrialization as controls. Dye measured the effect of malapportionment and party competition on state policies in education, welfare, and taxation. He employed thirty policy indicators, each with data for all fifty states from 1960 and 1961: twelve measures of education policies, ten measures of welfare policies, and eight measures of tax structure and burden (Dye 1965, pp. 590–591).

The measures of malapportionment failed to show statistically significant correlations with most of the state policy indicators, once the environmental variables of income and industrialization were controlled (Dye 1965, pp. 595–599). Dye concluded, "On the whole, the policy choices of malapportioned legislatures are not noticeably different from the policy choices of well-apportioned legislatures. Most of the policy differences which do occur turn out to be a product of socio-economic differences among the states rather than a direct product of apportionment practices" (p. 599).

Dye's book, *Politics, Economics, and the Public* appeared the next year, as did two articles by Richard Hofferbert on the relationship between socioeconomic variables and public expenditures in the states. Dye (1966) reported that, in welfare and in other policy areas, socioeconomic variables seemed to account for more of the variation among states than political characteristics such as apportionment, party competition, and turnout. Hofferbert (1966b) used the Dawson-Robinson measures of state welfare expenditures, plus some data on state financial aid to cities, and also found that environmental variables such as the extent of industrialization affected these indicators of state policies to a greater extent than the political variables of apportionment, party competitiveness, and divided

government. Other studies during the late 1960s confirmed that measures of socioeconomic differences among states, localities, or countries showed stronger statistical relationships to policy measures than did differences in their political institutions or behaviors.

The subfield flourished. The early activity in comparative policy studies was so prolific and its emergence so rapid that retrospective assessments of its progress and problems began to appear within just a few years (Wilson 1966; Froman 1967). As early as 1970, Ira Sharkansky was able to produce his edited volume, *Policy Analysis in Political Science*, consisting largely of papers presented and articles published from 1966 through 1968, that offered and applied models and presented and tested hypotheses about the determinants of public policies, especially at the state level.

The Dawson-Robinson question—whether environmental or political variables matter more—continued to frame entries in the subfield for several years. A series of articles concerning redistributive policies of the American states is illustrative: Fry and Winters (1970) found a larger role for political variables, then Booms and Halldorson (1973) weighed in on the side of the socioeconomic environment, then Uslaner and Weber (1975) and Tompkins (1975) published rejoinders emphasizing interactive effects.

A 1970s Shift

The environment-versus-politics tone of the literature diminished during the 1970s. Researchers such as Cnudde and McCrone (1969), Uslaner and Weber (1975), Tompkins (1975), Lewis-Beck (1977), and Cameron (1978) began to employ path analysis to comparative studies, showing interactive as well as partial effects of independent variables. Those studies appeared to rescue the importance of political variables and suggested that policy outputs were complex products of several factors (Hofferbert 1990, p. 147). At the end of the decade, Mazmanian and Sabatier (1980) emphasized that, throughout the comparative state policy literature, the proportion of explained variance in policies had been fairly small (see Allen 2005 for a recent example), leaving open the possibility or likelihood that state policies were heavily influenced by other factors.

Near middecade, Hofferbert (1974) made an effort to include some of those other factors and to portray their relationships to one another and to the political and socioeconomic variables that had been used in previous comparative studies. His reformulation of the basic policy output model presented a sequence of related sets of variables, from the broadest background variables capturing historical and geographical circumstances of the polity on through socioeconomic attributes of the population, mass political attitudes and behavior, governmental institutions, and elite behavior, respectively. Reading it backward, policy outputs were decisions produced by elites operating within governmental institutions but affected by the mass public, the socioeconomic environment, and ultimately by the historic-geographic setting.

These mid-1970s reconsiderations within the subfield of comparative policy studies had important impacts upon subsequent studies. Prior to this shift, virtually all of the variables employed were aggregate, system-level characteristics, and all of the data gathered and analyzed were secondary data. After the 1970s, a greater proportion (though by no means all) of published comparative policy studies included some variables reflecting elite and/or mass preferences, with data from surveys, referenda, and/or interviews of decisionmakers in multiple organizations.⁶ Many also employed data analysis techniques designed to show interactive or configurative effects among the variables, rather than simple correlation analysis in which the variable(s) with the largest partial coefficient(s) was interpreted as having the greatest explanatory effect.

Predictably enough, increased complexity of models and greater sophistication of methods sometimes yielded mixed and subtler findings. Socioeconomic variables made a difference, but only up to or after some threshold. Political variables made a difference under some socioeconomic conditions but not others, and so on.

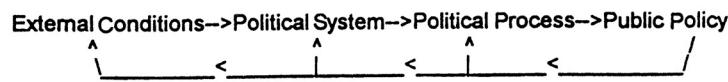
A prime example of this manner of sophisticated study producing complex results is the large-*N* cross-national project of Przeworski et al. (2000) comparing political regimes under different conditions of development, and indicators of development under different political regimes. Aggregate economic growth rates of democracies and dictatorships were not significantly different, but per capita incomes and their rates of growth were—an effect of faster population growth in dictatorships than democracies. Poverty persists under both regime types, but in countries above a threshold income level, growth is faster among democracies than dictatorships. Wealthier democracies withstood occasional economic downturns and incidents of political instability as well as dictatorships did, but poor democracies withstood them less well than dictatorships. The Przeworski et al. study was designed deliberately to let independent variables and dependent variables trade places and to examine the conditional effects of independent variables upon one another; the conclusions (2000, pp. 269–278) are fascinating, useful, and really complicated.

A SYNOPSIS OF THE DYE-SHARKANSKY-HOFFERBERT (DSH) APPROACH

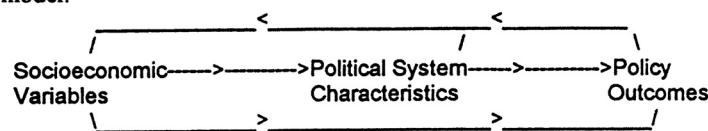
We will return to some of these more recent efforts to conduct improved comparative policy studies. At this point, it is time to pause and assess the basic theoretical thrust of the generation of large-*N* comparative studies that has accumulated since the early 1960s.

After Dawson and Robinson originated the large-*N* comparative state policy study, Dye, Sharkansky, and Hofferbert may be said to have contributed the most to the development and maturation of the subfield. Their work has influenced an extensive and still-growing body of studies exploring cross-system differences in a host of independent variables to see which are and are not associated with differences in policy indicators.

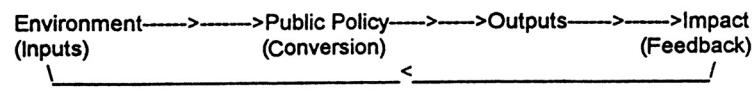
Dawson and Robinson's (1963) model:



Dye's (1966) model:



Sharkansky's (1970) model:



Hofferbert's (1974) model:

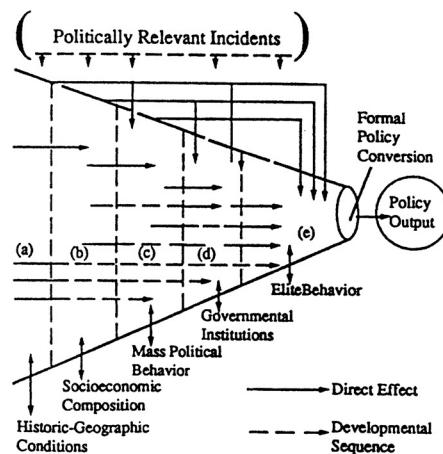


FIGURE 9.1 Models used in Comparative Policy Studies

Figure 9.1 reproduces the models of the policy process presented by Dawson and Robinson (1963), Dye (1966), Sharkansky (1970a), and Hofferbert (1974). The models are clearly variants on systems theory: an external environment influences a political system that produces policies that feed back into the environment. Equally clearly, the models are similar. Their differences have to do with such subtleties as whether to represent political behavior or activity in addition to the political "system," whether to represent policy outputs separately from outcomes or impacts, and how many potential stops there are along the feedback loop.

Hofferbert's (1974) attempt to produce a more comprehensive model represents the process as a "funneling" of influences toward a formal decisionmaking event. Its notable visual difference from the other models is not matched by a like amount of conceptual difference, however. Hofferbert's model fundamentally portrays an external environment (historic-geographic circumstances plus socioeconomic conditions) processed through a political system (the public, governmental institutions, and elite policymakers) that yields policy outputs.

These models have been applied in a variety of settings to examine policy outputs in cross-national, inter-state, and inter-local studies. From the time of the first rush (1966–1970) of large-*N* comparative policy studies based on the Dye, Sharkansky, or Hofferbert (DSH) models to the present, the basic approach has been the same. (This statement is not meant to gainsay the creativity of scholars with respect to variable operationalization, data collection, and statistical techniques.)

Typically, the scholar embarking on a DSH-style comparative study will specify a set of independent variables that are hypothesized to differentiate cases from one another with respect to some policy. The set of variables will include some elements of the socioeconomic environment. Economic measures (income, industrialization, etc.) are universal, and demographic indicators are common. The construction of indices combining economic measures or demographic ones, or both, has been an area of considerable creativity among scholars producing DSH-style studies.

Other independent variables will represent aspects of political behavior and institutions that are hypothesized to be important. In comparative state policy studies, for example, data on voter turnout registration or turnout, measures of party competition or instances of divided government, and measures of interest-group influence have been used frequently. In addition, after Elazar and Sharkansky in the early 1970s emphasized the importance of political culture and regionalism to an understanding of the American states and their political systems, many DSH-style studies also included constructed variables indicating region and/or the Elazar culture types (e.g., Boeckelman 1991). Scholars have been inventive in constructing indicators of these political variables.

The dependent variables in these studies are what the models depict as policy "outputs." Early studies leaned heavily upon public expenditures as interval-level data. Thus, for instance, a state's welfare policy would be measured in terms of

total state expenditures for welfare programs, or monthly benefit per recipient household (e.g., Brown 1995). Since the late 1970s, many DHS-style studies have employed a categorical dependent variable indicating the presence or absence of a policy or policy change during a specified time interval, the adoption or non-adoption of a state law, and so on.⁷

Employment of categorical dependent variables followed the introduction of different statistical techniques to DSH-style studies. In the 1960s and early 1970s, multiple regression analysis was the standard statistical method employed in DSH-style studies, and ordinary least-squares regression required interval-level data on the dependent variable. Logistic regression and discriminant analysis techniques became more common in the 1980s and 1990s,⁸ allowing scholars to extract and analyze univariate and multivariate statistics indicating the relationships among variables and the explanatory power of models when the dependent variable is simply a (0,1) category.

THE DSH APPROACH AND THE PURSUIT OF THEORIES OF THE POLICY PROCESS

Comparative policy studies using the DSH approach (and comparative state studies in particular) represent a considerable proportion of the body of literature in the field of public policy studies. Whether and to what extent the DSH approach has advanced the ability of policy scholars to understand and explain the policy process is another question. DSH-style models and the accumulated body of empirical studies based on them still leave us well short of a theory of the policy process, for at least four principal theoretical and methodological reasons.

Policy Events Versus a Process of Policy Change

The Identification of Policies. The DSH models depict policies as outputs of the political system, and DSH-style empirical studies have tended to operationalize those outputs as discrete policy-adoption events or as levels of public expenditure. These operationalizations are subject to legitimate criticisms.

Levels of public expenditure are not valid indicators of policy choices across political systems. The simple reasons are that (1) costs and prices vary from place to place, so greater or lesser expenditure may not indicate a proportionally greater or lesser degree of governmental activity or commitment, and (2) efficiency and level of corruption also vary from place to place, making it still less clear whether level of expenditure translates into a similar degree of activity or commitment. Castles and Mitchell (1993, pp. 96–99) commented eloquently on the use of expenditure data in comparative policy studies as an unavoidable yet troublesome measure. Smith (1975) and Leichter (1979) observed that, because the assignment and allocation of policy activity—both between levels of government and between the public and private sectors—differ from place to place,

comparing public expenditures at one level of government can obscure substantial differences between some cases or exaggerate small differences between others.

Of course, these problems of using public expenditures as policy indicators can be overcome in a couple of ways. A researcher can try to correct the problems by investigating policy implementation and funding within every state and then controlling for the differences by combining state and local or public- and private-sector expenditures, then constructing a corruption-and-slack index with which to deflate each state's expenditures. One might expect that the costs of such efforts would be high relative to the benefits attained, and evidently the scholars who produce DSH-style studies have reached that conclusion as well since such efforts are rarely attempted.

An alternative to this kind of heavy lifting is to measure policies as events rather than as levels of expenditure. As for this alternative, the criticism has been voiced that a policy-adoption event is not a policy (Greenberg et al. 1977, p. 1533).

The problem here is *not* that the sorts of governmental actions often counted as policy-adoption events (the passage of a law, the creation of an agency, etc.) may be symbolic rather than substantial—after all, DSH models do not exclude symbolic policies as system outputs; rather, there are three deficiencies involved in employing policy-adoption events as dependent variables. First, such counting begs the question of which policy-adoption events a researcher should select to represent incidents of policy change produced by the political system in response to environmental conditions and/or political behavior. As early as 1965, Thomas Dye acknowledged this problem in his study of the policy effects of legislative malapportionment: “In the 1960–61 legislative biennium, more than 104,000 bills were introduced in the state legislatures throughout the nation. Each bill rejected or enacted represents a separate policy choice. What policies are to be selected in order to assess the impact of malapportionment?” (Dye 1965, p. 590). If one were to include administrative regulations adopted or rejected, and court decisions issued or deferred, the difficulty Dye identified is multiplied.

Second, there is the problem of capturing the context within which a policy-adoption event occurs. The context may reveal that apparently similar (even apparently identical) policy-adoption events had different (even opposite) intentions as policies. In their study of state occupational safety and health enforcement, for example, Thompson and Scicchitano (1985) found that states had adopted worker-safety laws and created worker-safety agencies for either of two reasons. Some had created their own laws and agencies to promote workplace safety conditions above and beyond the federal standards. Others had created their own laws and agencies to satisfy the state-primacy requirements of the federal OSHA law and “keep the feds out” so their own employees could do a more lax job of enforcement. Both groups of states would have been counted as having adopted occupational safety and health laws and agencies, but the two groups were clearly pursuing substantially different occupational safety and health *policies*.

Third, there is the challenge of selecting the time period within which policy-adoption events are counted. As policy-diffusion studies have shown, adoptions of new policies work their way across jurisdictions over a sometimes lengthy period. If a researcher waits until all jurisdictions have displayed a policy-adoption event, then a DSH-style study is moot because there is no variation on the dependent variable. But if a research chooses a time-stopping moment at which some jurisdictions have completed the policy-adoption event whereas others haven't, two methodological questions arise: first, by what criteria was the time-stopping moment selected (Greenberg et al. 1977, p. 1535), and second, does the DSH model really explain the differences between the adopting and non-adopting jurisdictions (Salisbury 1968, p. 154)? To elaborate on the second question: if at time t , twenty-five states had experienced policy-adoption events but at time $t + x$, thirty states had done so, what have we learned about state policymaking from a DSH-style study performed at either point, especially if during the interval x there was no significant change in the values of the environmental or political variables in those five states? These problems do not seem to be amenable to correction; they appear to be inherent in the DSH approach.

DSH Models and the Concept of a Policy Process. However carefully done, cross-sectional comparisons of expenditure levels or adoption events do not shed much light on the policy *process* conceived either in terms of stages or in terms of policy change over time. Regardless of whether one views the stages approach to the study of the policy process as retaining considerable heuristic utility (deLeon 1997) or as an outdated and poor substitute for a policy theory (Sabatier 1991, 1997), it is legitimate to point out, as Hofferbert (1990, p. 146) himself acknowledged, that DSH models focus primarily, if not exclusively, on policy formation and adoption. Little or no attention is given to implementation, evaluation, or feedback in the empirical studies despite their appearance in the models.⁹

Whether or not one views the failure of the DSH approach to incorporate these stages as a serious flaw, there is little question that the DSH models and the empirical studies based upon them employ a definition of policy that ignores the prospect that policymakers' intentions may be undermined or even undone in implementation. This limits the DSH models' usefulness for building a theoretical explanation of the policy process.

There are several reasons, some considered later in this chapter, for the inability of the DSH approach to provide an account of policy change over time. One reason is the data-selection bias in favor of initial policy adoptions over occurrences of policy modification or abandonment. Initial policy adoptions occur when no state law or regulation or agency (or state authorization or mandate for the creation of local versions of the same) existed at time $t - 1$, a policy adoption event occurs at time t , and the state law, regulation, and so on exists from time $t + 1$ forward. Policy modifications are changes to established state policies—a law or regulation is amended, an agency is reorganized or its resources are changed in

ways that affect its operation, an authorization or mandate for local action is altered. Hogwood and Peters (1983) contend that most policy change falls into this category of policy modification, or what they call "policy replacement." Policy abandonments mark the withdrawal of government activity from an area—repeal, rescission, termination, devolution to local governments, or preemption by central government.

DSH-style studies published during the previous forty years ordinarily focus on initial policy adoptions. This is probably not coincidence. Operationalizing the DSH approach tends to lead one in the direction of discrete policy-adoption events—passage of a law, creation of an agency—that unambiguously (or at least less ambiguously) mark an occurrence of policy change.¹⁰ The researcher who thinks about developing and employing indicators of policy modifications may recognize that he or she could spend years fending off methodological quibbles (e.g., which amendments, changes in funding, reorganizations, etc. represented *real* policy changes and should have been coded as a 1 versus those that were insignificant and should have been coded as a 0) and will give up the effort before the paper is written, much less sent out for review.

Moreover, the availability and cost of data tend to direct one toward initial policy adoptions and away from policy modifications and abandonments (perhaps especially the latter). Although the cost in time and effort of developing one's own database has dropped significantly since the arrival of computers with Internet access, it nevertheless remains much easier to identify, count, and date the passage of laws and the creation of agencies than it is to find significant amendments or determine that a state mandate has effectively been abandoned via nonenforcement. Policy abandonments seem particularly likely to be overlooked, since they may resemble the dog that didn't bark, unless signaled by a noticeable event such as the repeal of a law or the elimination of an agency.

If DSH-style empirical studies exhibit a methodological bias in favor of initial policy adoptions and against other forms of policy change, how does that affect our ability to develop a valid understanding of the public policy process? Among other things, it may distort our understanding of the role of information and analysis in the process of policy change. Granting that social and economic conditions, political activity, and ideas and information are all important factors in the policy process, consider that their relative importance may differ from one situation to another. A logical argument exists that, whereas information and ideas always matter in initial policy adoptions (especially information about policy innovations as they diffuse among jurisdictions), those adoptions may be affected to a greater degree by environmental and political variables. Policy modifications and abandonments will also be affected by changes in political and environmental factors, but information and analysis may play a greater role in the decision to change or end a policy than in the decision to adopt it in the first place. If the logic of these assertions has merit, and if the DSH approach under-represents cases of policy change via modification or abandonment, that under-representation may

diminish our attention to the role of information and analysis in the process of policy change, leaving us with an understanding that artificially inflates the importance of socioeconomic conditions and political structure.

The Description of the Political System

Both the DSH models and DSH-style empirical studies leave the political system under-described in ways that have inhibited their usefulness for building political theories of the policy process. Among the most important deficiencies that impinge upon our ability to improve understanding and explanation of the policy process are failure to incorporate the existence of multi-organizational governments and multi-governmental systems,¹¹ failure to incorporate institutionally defined roles, and failure to recognize the requirements or possibilities for joint or sequential action among multiple actors.

The American states—the jurisdictions to which the DSH models have been most frequently applied—are both multi-organizational governments and parts of a multi-governmental system. Ironically, the DSH models and DSH-style empirical studies rarely account for either characteristic, despite their importance for policymaking. The political “system” modeled in the DSH approach is unitary—inside Dye’s or Sharkansky’s box or at the end of Hofferbert’s funnel is a single, abstracted decisionmaker, an idealized executive, legislature, or court producing policies.

The point here is not merely that the DSH models fail to fully describe empirical reality—of course, models never do. The important question is whether a particular abstraction or simplification in a model removes a theoretically significant element of the object or process one hopes to explain. If our purpose is to construct a valid explanation of the policy process, models that present governmental organization as unitary and governmental decisionmaking as singular remove from view vital elements of the very process we are trying to represent.

In multi-governmental systems such as that of the United States, policy change occurs not only through innovation, termination, or replacement of policies, programs, or organizations, but also as the result of shifts in intergovernmental responsibilities and relationships (Hogwood and Peters 1983, pp. 20–21). Furthermore, the existence of multiple governments within a political system creates opportunities for strategic action by policy entrepreneurs, as noted below in connection with human agency. Political scientists who proclaim their interest in the policy *process* have often excluded intergovernmental interactions and processes from their field of vision (Van Dyke 1968, pp. 26–27). This criticism is especially valid as it pertains to DSH models.

In a similar vein, the presence of multiple organizations within a government—that is, separated powers—is a vital element of the policy process that is also under-described or omitted in DSH models.¹² Policy scholars outside the DSH tradition, from Salisbury (1968) through Baumgartner and Jones (1991) to the present, have acknowledged that the existence of multiple decisionmaking

entities—not only formal branches of government but also informal arrangements such as policy subgovernments—profoundly affects the course of policy formulation and argumentation, as well as the likelihood of adoption or modification. If they are correct, then a needed dimension of comparative studies of the policy process is some representation of the range of institutional alternatives available to policy entrepreneurs.

Within the multiple organizations of a government and the multiple governments of a nonunitary political system, institutional rules (at the constitutional and collective-choice levels of action, according to the institutional rational choice framework) define essential roles or positions that individuals may fill. Among the vital implications of the existence of institutionally defined roles is that all members of a political community are not equally positioned in the policy process (Gergen 1968, p. 181). At a given moment, certain individuals occupy positions that allow or require them to be agenda-setters, gatekeepers, and veto-holders. Although a strong case can be made that the existence of these roles is vital to understanding the policy process within as well as across jurisdictions, the DSH approach does not recognize them.

Policy change, especially in governmental systems such as those of the American states, often occurs through the interaction of actors in multiple, institutionally defined roles. Those interactions may be joint or sequential. Recognizing the existence of multiple actors does not mean simply that political decisionmaking is usually a joint enterprise—for instance, that legislators and the executive have to agree before policy change occurs. Policy change certainly is often a joint enterprise, but it does not have to be. Policy change can also involve a sequence of actions and reactions taken unilaterally by individual actors in institutionally defined roles. Knott (1993, pp. 6–7) employs the example of a court altering the substantive meaning or the practical applicability of a state law through the act of interpretation. The interpretation by that court—perhaps even an individual judge—is itself a policy change, but it is also an event in a sequence. If the legislature or the executive is dissatisfied with the court's modification of the policy, some sort of response will likely be attempted to restore the previous meaning and operation of the law. This sort of sequential interaction represents policy change without changes in the values of socioeconomic or political system variables and is, therefore, outside the explanatory capacity of DSH models. Yet even casual observation reveals that this sort of process frequently drives policy change.

THE ROLE OF HUMAN AGENCY AND STRATEGIC ACTION

The Unit of Analysis and Explanations of the Policy Process

The units of analysis in DSH-style studies are the cases. It is the policy behavior of governments (e.g., the American states) that supposedly is described by a model that incorporates their socioeconomic conditions and political configurations. Yet the states are typically not the focus of *explanations* in DSH-style studies. As

Andrew Abbott pointed out, the explanations supplied by researchers who perform DSH-style studies describe the variables rather than the cases as acting or being acted upon: "Most narrative sentences here have variables as subjects; it is when a variable 'does something' narratively that the authors think themselves to be speaking most directly of causality" (1992, p. 57).¹³ Thus, malapportionment does (or does not) lead to higher welfare expenditures, or industrialization does (or does not) generate greater state aid to cities. Only when we encounter anomalous results are narratives that focus on the political systems pressed into emergency service (as in, "Oh, yes, of course we all know that Nebraska is an outlier skewing the results, because in Nebraska . . .").

Why is this a problem for policy theory? First, the variable-driven explanations have an automaticity that largely removes human agency from view, much less from a central place in explanation and understanding. As per capita income rises, so do educational expenditures—no one actually *does* anything to raise educational expenditures; it just happens. States with moralistic political cultures adopt environmental protection laws; states without, do not. While these insights have some utility, they do not contribute much to the enterprise of constructing an explanation of the policy process that is grounded in a model of the individual, describes the policy process as a human-driven process, and can be used comparatively to account for developments over time.

Thus, it is not just the empirical results of DSH-style studies that appear to suggest that "politics doesn't matter" relative to environmental conditions, it is the construction and the interpretation of such studies that yields this conclusion. If the behavior of human beings is not the focus of analysis or explanation, then politics—with its interactions, arguments, quests for power or control, and all of its uncertainties as a form of human social behavior—has largely been removed from the scene. As scientists, we might not be worried over this if the remaining explanatory variables performed well in accounting for policy differences across jurisdictions or over time, but they do not. A huge unexplained residual remains, which some political scientists have recognized represents human agency (Mazmanian and Sabatier 1980) but which DSH-style studies regard simply as error (Abbott 1992).

The automaticity of the variable-driven explanations provided in DSH-style studies reflects two other problems—one for empirical theories of the policy process, the other for the normative utility of policy theory. The problem for empirical theory is that one cannot build from these types of explanations an account of the policy process that leaves room for contingencies, for failure or collapse. Since people are not at the heart of the explanation, their skill or learning or miscalculations do not—cannot—produce the outcomes. An empirical theory of the policy process that does not center upon human agency is unlikely to be able to explain much of what transpires.

Furthermore, even if DSH-style studies could explain a higher proportion of the variance in policies across jurisdictions, the question remains whether anyone

could use that information to alter the likelihood of success in changing policy. Hofferbert (1990, p. 147) recalls the early efforts to build models that would account for the highest possible amount of policy variance using socioeconomic and political-structure variables, and he describes it as “basic research” at its most elegant level of irrelevance. . . . It says that the only way to change policy is to change social, economic, and political structures.” In comparative state studies where region and political culture frequently outperform all other independent variables, this irrelevance has occasionally reached farcical heights. The late U.S. Senator Daniel P. Moynihan (D-NY) once composed a sarcastic op-ed commentary in the *New York Times* commenting on educational policy studies that showed that the independent variable most strongly correlated (negatively) with standardized test scores was distance of the state capital from the Canadian border. Want to raise your students’ test scores? asked Moynihan. Move your state capital!

Failure to Include Multiple Levels of Action and the Scope of Conflict

On a more serious note, the DSH models and DSH-style studies leave little or no opportunity for policy scholars to explore or pursue the usefulness of the concept of “levels of action.” In the DSH approach, the political system is not only static, it is a given. As we noted above, the political structure simply *is* whatever is in the box or at the end of the funnel. Individuals do not achieve or block policy change by shifting to another level of action and reconfiguring the organizational structure or institutional rules of governmental decisionmaking. Yet, studies employing other frameworks (institutional rational choice’s levels of action, Baumgartner and Jones’s arena shifts) have concluded that the ability to change action arenas is an important aspect of the process of policy change and a vital strategic tool for policy entrepreneurs and their opponents (e.g., Baumgartner and Jones 1991; Heintz and Jenkins-Smith 1988; Montgomery 1995). The ability to redefine the jurisdiction or authority of a governmental body (what institutional rational choice theorists call action at the constitutional or collective-choice level) to make it accessible or off-limits to a policy proposal is a critical aspect of strategic political action. The same is true of policy implementation as well as adoption activity (Macey 1992).

In fairness, DSH-style studies are usually focused on a short term and thus may be defended in the same way that economists defend static analyses of what will happen in an industry if demand or supply shift suddenly, that is, that in the short term the capacity and structure of the industry are fixed for all practical purposes. A similar observation applies to the governmental realm—states are unlikely to change their governmental structures overnight and, thus, holding structure fixed is a reasonable way to approach the design of an empirical study of policymaking in the states. Granting that concession, the absence of a means of accounting for shifts in the level of action remains a deficiency of the DSH approach for the enterprise of building a political theory of policy change.

Related to the concept of levels of action is the concept of the scope of conflict. The definition of relevant actors is also institutionally defined, though not solely through formal rules. From Key and Schattschneider to the present, policy scholars have proposed and shown that an important element of strategic political action in the policy process is the ability to expand or restrict the scope of conflict (see Bauer 1968, Baumgartner and Jones 1991, Stone 2002). DSH models and empirical studies treat the scope of conflict as fixed; the degree of elite or mass public involvement, the configuration of interest groups, and other such measures are taken at a moment in time and not allowed to vary, except across jurisdictions. Cross-jurisdictional variation in these indicators is, almost by definition, not a result or reflection of strategic behavior.

Recognizing the vital role of human agency in the policy process and the importance of strategic shifts in level of action and in decisionmaking venue, Smith (1982) follows the sociological methodology of Alfred Schutz and the economic methodology of Ludwig Lachmann and advocates a phenomenological approach that focuses on rational individuals as policy entrepreneurs who formulate "plans" and attempt to transform their plans into policies through strategic action. Key elements of that strategic action are (1) the actor's anticipation of conflict or opposition, which affects (2) his or her choice of political institutions through which to work, both of which affect (3) his or her expectations about likely outcomes of the process. During the actual political process of policy change, individuals may (and usually will) alter (2) and (3), depending upon the extent to which conflict or opposition are greater or lesser in intensity or in scope than anticipated.

INFORMATION, IDEAS, BELIEFS, AND INTERESTS

The idea of policy entrepreneurs reacting to new information by altering their strategies brings us to the model of the individual that is at work in these comparative policy studies, as well as to the role of information, perception, and interests in guiding individuals' actions. Here we encounter two questions: What view do DSH models and studies take of individuals' political interests, and how do those models and studies treat information and perception as sources of change?

The Identification of Interests

Because of their systems-theory focus on "demands and supports," DSH models of the policy process tend to objectify the political interests of participants and correspondingly to neglect the importance of beliefs, ideas, and information in the policy process. Accordingly, they have not been able to generate useful propositions about the impact of information, and of changes in the beliefs and ideas held by participants, upon the policy process.

DSH models do not contain or accommodate intermediate steps between the presence of certain socioeconomic conditions (e.g., wealth, industrialization,

urbanization) and the demands made upon or supports provided to the political system and to which the system responds. More bluntly, in the DSH models, individuals derive their political interests directly and objectively from their socioeconomic conditions. Accordingly, beliefs and ideas are comparatively unimportant; if socioeconomic conditions change, so will the beliefs and ideas that constitute participants' perceptions of their interests, and such change in interests is unlikely to occur in the absence of changed conditions. Individuals (to the extent that they exist at all in DSH models) are epiphenomena—statistical ciphers whose interest indicators flick on and off in varying configurations as their incomes rise or fall, their residences become urban or rural, their occupations industrial or agrarian, and so on.¹⁴

At the time of the first rush of DSH models and studies, Raymond Bauer wrote: "Policy formation is a social process in which an intellectual process is embedded" (Bauer 1968, p. 5). He added (p. 16):

Of course, there are constraints of reality beyond which a sane man cannot be persuaded his interests lie. But within these limits there is sufficient latitude that self-interests cannot be taken for granted. We need to determine empirically not only how the persons in the policy process define their self-interest, but how the social process of communication brings about the definition and redefinition of self-interest over the course of time.

DSH-style studies have not done so, and it is not clear that the underlying model on which such studies are based is amenable to doing so.

The Role of Information and Perception

The newer contributions to policy theory, especially the advocacy-coalitions, policy-streams, and punctuated-equilibrium approaches, have taken the intellectual or developmental aspect of the policy process more seriously. Instead of treating policy analysis as an objective element in the evaluation stage of the policy process, these newer treatments regard policy analysis as a consciously cultivated tool of persuasion that may be employed throughout the process of policy change to try to alter, enhance, or undermine one's position or the positions of one's opponents (Heintz and Jenkins-Smith 1988). Several studies employing these emerging frameworks indicate that (1) the beliefs and ideas of participants are important elements of the ways in which they attempt to change public policies, (2) participants endeavor to cultivate information with which to counter or alter the beliefs and ideas of others, and (3) information sometimes has these effects upon participants' beliefs and ideas (Knott 1993).

The effort to change the image or perception of a policy is related to, but not the same as, the effort to expand or contract the scope of conflict. Altering images and perceptions is an important aspect of an attempt to change the scope of conflict.

Still, one may engage in efforts to alter images and perceptions even if the scope of conflict remains unchanged and even if one is not trying to change it. Altering images and perceptions through the development and communication of information is part of influencing policy learning—reinforcing the perceptions held by one's allies and weakening those held by one's adversaries. Even when the scope of conflict remains stable, information and perception may play important roles in redefining the balance of power among the set of participants (Sabatier and Jenkins-Smith 1993).

Because they present a static analysis of policymaking and their model of the individual does not incorporate an intellectual process, DSH models and their associated empirical studies are unlikely to contribute to a policy theory that gives a central role to information and perception. One might even translate this observation into a choice facing scholars interested in the further development of policy theory—if a central role is to be accorded to information and perception, we will need a model of the policy process that describes or predicts the actions of individuals rather than the aggregate characteristics of systems.

Some scholars *have* attempted to add information about mass and elite preferences, or about elite beliefs and information, or both, within the confines of a DSH model. Among the most ambitious such efforts (although again in a small-*N* context) was the work of Mazmanian and Sabatier on the policy decisions of the California Coastal Commissions. In that work, they employed Hofferbert's (1974) model, and collected and added information about mass preferences, elite preferences, and elite beliefs and information to the usual data on socioeconomic conditions, to try to isolate and identify the relative contribution of these factors. Their efforts succeeded—the revised model explained nearly all of the variance among commissioners in their decisions about whether to grant or deny coastal development permits. However, fleshing out the Hofferbert model with this kind of data took approximately five years and as much as \$200,000 and still only provided evidence across an *N* of four governments within the same state.¹⁵

Drawing toward a close, we return to Hofferbert's 1990 review and self-critique. In DSH-style comparative policy studies, he acknowledged, "Theory was and still is light. Induction . . . has driven the inquiry" (Hofferbert 1990, p. 147). Let us now consider what fruits this inductive approach has brought to the development of policy theory.

(PERHAPS UNDERAPPRECIATED) MERITS OF THE DSH APPROACH

The DSH approach has constituted a large portion of public policy scholarship since the 1960s. This review of its weaknesses in forming a political theory of the policy process does not mean that the approach lacks merit or that it has not made significant contributions to political science generally and policy studies in particular. In this section, we devote some attention to the research activity that has occurred and the insights that have been gained under the guidance of the

DSH approach. Furthermore, we need to acknowledge again the efforts in more recent comparative policy studies to address and correct some of the deficiencies identified above.

The DSH models, and the early studies that revealed stronger correlations between environmental variables and policy differences than between political variables and policy differences, shifted the field of policy studies even as it was emerging. The DSH-style studies demonstrated that, however the new field of policy studies was to be constructed, it would have to involve more than an examination of political actors operating within governmental institutions (Salisbury 1968, pp. 163–164). The studies also showed that policymakers are constrained by a host of conditions over which they have limited control, at least in the short run (Hofferbert 1990, p. 145). Both of these findings have informed scholars in the field of policy studies.

Albeit inductive and data-driven, the DSH approach has also provided an accumulation of empirical studies that has identified patterns in policy activity. The many comparative state studies, for example, have established that economic development, region, and culture all aid in distinguishing states from one another with respect to their likelihood of adopting certain forms of policies.¹⁶ Cross-national studies have yielded similar findings for economic development, demography, and culture. Comparative local studies have found that economic development, region, population, and (occasionally) governmental structure matter.

Those patterns, seen again and again in DSH-style studies, have become part of the empirical foundation on which more recently developed theoretical frameworks are constructed, even if this influence is not always evident to the builders of those frameworks. The institutional rational choice framework includes “attributes of the community” among the influences upon a decision situation, which include elements such as cultural and economic characteristics. The advocacy coalition framework’s elaboration of coalition members’ core and secondary beliefs opens the door to cultural framing of perceptions, and the inclusion of exogenous factors allows changes in social and economic conditions to affect the intercoalition competition. Baumgartner and Jones’s framework acknowledges that an important aspect of manipulating “policy image” entails sensitivity to culture, and that changed economic conditions can lead to changed perceptions of a policy. These emerging approaches to a theory of the policy process were developed primarily during the 1980s and built upon a base of empirical studies showing that culture and economic conditions affect the possibilities and constraints upon policymaking.

Once empirical patterns are well established within the intellectual framework of a model, the impetus for additional theory building can arise from the discovery of anomalies (Leichter 1979, p. 100). When the “iron triangles” model could not explain the flurry of deregulation in the late 1970s, for example, policy scholars began to construct new approaches—issue networks, advocacy coalitions,

punctuated equilibria. Similarly, no matter how skillfully scholars performing DSH-style comparative studies constructed their models, operationalized their variables, and gathered and analyzed their data, they were rarely able to explain as much as half of the policy variation among states. The debate over political versus socioeconomic influences and the persistence of a large unexplained variance, even when both types of variables were included, became grist for a new round of examination of the role of policy elites, of the importance of beliefs and information (Sabatier and Jenkins-Smith 1993), of the relationship between public opinion, political parties, and public policy (Erikson, Wright, and McIver 1989, 1993), and, in the comparative state context, of the role of governors and legislatures (Ferguson 1996).

Finally, despite all the criticisms in the previous section to the effect that cross-sectional studies are poorly suited to the task of explaining and understanding a longitudinal process, longitudinal policy studies have limitations of their own that would have weighed down the theory-building enterprise without the insights of the cross-sectional approach. By the late 1960s, policy scholars had both discovered and despaired of incrementalism. Study after study focusing on a policy topic within a government over time tended to find "that nearly all the time policy will vary only marginally from what it has been" (Salisbury 1968, p. 164). Especially with respect to public expenditures, but also with other implementation-stage measures of governmental activity (arrests made, citations issued, grants awarded, inspections conducted, etc.), the next year's actions could be predicted with great reliability and accuracy by using this year's actions, this year's actions from last year's, and so on.

Such observations were hardly fertile soil in which to develop a political theory of the policy process, especially if one hoped to advance a theory that could explain change. And so, as Hofferbert (1990, p. 109) recalls, policy researchers searched for some variance. They found it in comparative studies. Welfare expenditures in Pennsylvania may not change much from year to year, but they sure were different from West Virginia's, which were different from North Dakota's, and so on. The pursuit of some accounting for these differences yielded an empirical base, some reliable patterns, and some unexplained puzzles upon which the field of policy studies has been built and upon which it continues to be built today.

ARE LARGE-N STUDIES INCOMPATIBLE WITH A VALID THEORY OF THE POLICY PROCESS?

Large-*N* comparative policy studies have not achieved the grandest hopes wished for them in the heyday of the behavioral revolution. In the emerging field of policy studies, scholars hoped that the comparative approach would break the deadlock of incrementalism and vault the field forward toward a theoretical approach that could describe within-system stability and change as well as across-system similarities and differences. In the well-established field

of comparative politics, scholars hoped that large-*N* policy studies would finally turn the field away from its tradition of country-by-country description and toward genuinely comparative research that might hold the promise of theory building (Mayer 1989; Smith 1975).

It was a lot to hope for. It is probably fair to say that large-*N* comparative policy studies have had more effect on the policy field than on the comparative politics field, but even so, the impact on the policy field has fallen short of the hope of providing anything like a policy theory. Two questions remain: Did the DSH models and studies "fail," or was the hope itself vain? And, given that several policy scholars are contemporaneously trying to develop valid theoretical approaches to the public policy process, can large-*N* comparative studies be of much help to the enterprise? The most promising contemporary approaches to a political theory of the policy process are building on some of the issues discussed in this chapter, and wrestling with others. All are trying to place human agency and strategic action squarely at the center of their explanations.

The institutional rational choice framework places boundedly rational individuals in decision situations shaped by multiple factors, assigns them positions defined by institutional rules, and embeds them in a multilevel analytic space where they are both constrained by rules and equipped with limited opportunities to shift levels and alter rules. The framework has begun to incorporate learning through search and trial-and-error, but continues to wrestle with the roles played by beliefs and norms and with change (as distinct from choice) over long periods.

The advocacy coalition framework focuses on the belief structures of individuals engaged in the struggle to make and define policy over time within subgovernments. It incorporates information and learning more explicitly than do other approaches but still wrestles with how coalitions form, sustain themselves, and break up, and with the effect of environmental change.

The punctuated-equilibrium framework focuses on policy image and the decisionmaking venue, seeing both as subject to change in response to the strategic action of individuals. It incorporates the multiple possibilities for restraining or expanding the scope of conflict, leaving a role for public opinion as well as elite preferences, but it wrestles with the causal driver that sets off a period of rapid change and with an explanation for how the different "sides" of a policy issue come together and coordinate their actions (or fail to do so).

The policy streams framework gives a prominent role to policymakers' perceptions of issues and to the efforts to shape and change those perceptions through the cultivation and use of information, as well as (like the punctuated-equilibrium approach) to the prospects for rapid change following long periods of stability. It wrestles with governmental complexity and with the occasions that open the windows of change.

Clearly the theories these approaches produce will be complex. Similarly complex, if less promising, are efforts to build upon the policy-stages approach (e.g., Rose's twelve-step policy-process research agenda) and upon the DSH-style

studies (e.g., Leichter's thirty-nine-item elaboration of a framework incorporating situational, structural, cultural, and intergovernmental factors).

Searching through these efforts, one can extract a set of broad requirements for a valid account of the public policy process. Such an account would be:

- *multi-dimensional*, incorporating the influences of the social and economic context of political decisionmaking, the structure and processes of the political system, and the development and evolution of information and ideas;
- *multi-institutional*, recognizing the diverse forums that may be available for decisionmaking, the roles available to individuals and the terms and conditions of that availability, and the possibility of institutional alteration through shifts among levels of action; and
- *dynamic*, or at least diachronic, capable of accounting for policy change as a process occurring through time and not only as an outcome at a point in time.

It seems, then, that internal complexity is bound to be a feature of valid theories of the policy process. Given the direction in which theory development is currently headed, policy theory will involve multiple actors with complex cognitive processes and diverse motivations interacting in a multi-organizational arena shaped by institutional and environmental factors over which they have varying degrees of control, and their interactions will occur over (sometimes long) periods.

Back to the earlier question: What role can large-*N* comparative studies play in developing and testing a theory with these features? Perhaps not much, for two reasons.

First, the complexity of the policy-process theories will make the information-gathering and analytic tasks of even individual case studies daunting. A skillful scholar with plenty of time and no institutional pressures to publish results right away may be able to mount some small-*N* comparative studies. The variable-operationalization, data-collection, and analytical tasks of a large-*N* study based on a multi-dimensional, multi-institutional, dynamic or diachronic policy theory are, however, daunting.

Second and more important, the emerging theoretical approaches to the policy process are by design longitudinal. Their empirical manifestations will be narratives, not cross-sections. Even if it were within the realm of feasibility, the large-*N* comparative study is methodologically inconsistent with a narrative account of policy change over time.

In the end, large-*N* comparative studies and valid theories of the policy process appear to be similar to the ways in which epidemiology and etiology are different aspects of the science of pathology. One who understands the etiology of a disease can describe the course it will take in an individual patient (with varying degrees of precision and accuracy from one disease to another, according to how

well the disease is understood). The etiologist can, in other words, provide the narrative account of the disease. An epidemiologist may be able to provide a scenario for the spread of the same disease across a population. The epidemiologist's account will be probabilistic and will be based on a set of information almost entirely different from that employed by the etiologist (obviously, information about the mode of transmission and the duration of incubation and recovery periods will be relevant to both accounts). The epidemiologist will focus on attributes of the relevant population and its environs—density, sanitation, age profile, educational attainment, availability of medical treatment, ability and willingness to seek and pay for medical treatment, and so on. To the extent that the epidemiologist provides a narrative at all, it will be a narrative of a likely disease-diffusion scenario.

On the surface, the epidemiologist and the etiologist are talking about the same disease. But their interests in and their knowledge of that disease diverge substantially. The etiologist is interested in providing a narrative-style explanation of the disease *process*. The epidemiologist is interested in providing a likelihood scenario of the disease's appearance and prevalence in a population of size *N*. Their subject matter is similar, but they are trying to answer different questions. So, too, are the emerging frameworks of the policy process and the comparative policy studies from the Dye-Sharkansky-Hofferbert tradition.

NOTES

1. See, for example, the excellent comparative policy studies collected in Castles (1993). These studies, rich in context and detail, are nevertheless for the most part confined to three, four, or five countries at a time. A number of large-*N* cross-national studies, such as Burkhardt and Lewis-Beck (1994), have political variables (e.g., the extent of democracy) as their dependent variables rather than public policy outcomes.

2. Notwithstanding the myriad other forms of local government in the United States, cities alone differ in governmental form to a considerable degree—for example, whether they have a separately elected executive or one appointed by the city council, whether the executive position is primarily ceremonial or administrative, whether the council members are elected at-large or individually from districts, whether elections are formally nonpartisan, and so on. These differences have spawned their own research studies, focusing on such questions as to whether at-large elections make a difference in minority representation or whether "strong" mayors, "weak" mayors, and city managers allocate their time differently, but those studies are for the most part outside the inquiry of this chapter.

As Wilson (1966) pointed out early in the development of this subfield, functions also vary from city to city in the United States, compounding the difficulties of conducting large-*N* comparative policy studies. In some locations, city governments are responsible for mass transit; in others, they are not. Some cities fund and operate water and sewer systems; others do not. Some cities own and manage public parks and libraries, whereas in other cities these are the responsibilities of special districts. Connecting the diverse forms of municipal

government organizations in the United States with their diverse responsibilities involves enormous information costs, which many researchers have decided are not likely to be offset or overcome by the marginal yield in additional information about the public policy process.

3. That still leaves plenty of room, of course, for discussions about one's choices of time period and variables.

4. Key's work appeared in *Southern Politics in State and Nation* (1951), Lockard's in *New England State Politics* (1959). Dawson and Robinson (1963, p. 270) wrote, "Our study is an attempt to expand further on the hypotheses of Key and Lockard concerning party competition and welfare policies, testing them in a larger 'laboratory' and applying slightly more rigorous statistical techniques."

5. They excluded Alaska and Hawaii, which were so new to the Union at the time of the 1960 Census from which Dawson and Robinson drew much of their data, and Minnesota and Nebraska, which had nonpartisan legislative elections that made it difficult to determine certain measures of state party competition.

6. Especially noteworthy in this regard, albeit in a small-*N* context, was the effort produced by Mazmanian and Sabatier (1980). Some examples of large-*N* studies that have incorporated data on elite and/or mass preferences include: comparative local studies by Ostrom, Parks, and Whitaker (1977), Schneider and Teske (1992), and Feiock and West (1993); comparative state studies by Erikson, Wright, and McIver (1989, 1993); and the cross-national work reported by Godwin (1992).

7. The literature on innovation and diffusion of policies among the American states, which also grew rapidly during the 1970s and 1980s, relied heavily on these sorts of indicators of state policy adoptions, and there has been a considerable overlap and cross-fertilization of methods and findings between innovation-diffusion studies (see Berry and Berry, Chapter 8, this volume) and the DSH-style studies covered in this chapter.

8. *Mea culpa:* Blomquist (1991) is another installment in the long list of these sorts of studies.

9. For a couple of noteworthy exceptions, see Thompson and Scicchitano (1985) and Ringquist (1993).

10. This is not to say that the passage of a state law or the creation of a state agency is necessarily a *valid* indicator of what we might call "real" policy change. The creation of an agency, for example, may represent the establishment of an active governmental role in some states while amounting to mere symbolism in others.

11. Paul Sabatier has suggested in correspondence that the Hofferbert (1974) model could be adapted to link funnels—for instance, so that a federal policy output would feed into the funnel of a state policy decision at, say, the governmental institutions stage. This might well be a useful adaptation, but it is not currently a property of the model, nor has it been applied; so for now, it must be acknowledged merely as a possibility.

12. Of course, some DSH-style state studies have included the presence or absence of divided government as an independent variable, which implicitly recognizes the existence of more than one decisionmaking body within state government.

13. Abbott also criticizes the latest methodological trend in comparative policy studies—event-history analysis—for merely aggravating the tendency. Citing as an example Pavalko (1989), Abbott points out that, in her study, the forty-eight states become 369

"cases," as she transforms the states into time-place fragments known as events. "(Each state appears once for each year in which it lacks a compensation law as well as once for each year in which it acquires one.) All of these are seen as independent realizations of a stochastic process. . . . [Thus] in the paper 48 complex, chained narratives are made to seem like 369 independent, one-step narratives and the 'causal' steps in those 369 stories all become one-step rational-action stories" (1992, p. 60).

14. Although the language may seem similar, this point is not the same as the one made earlier about the automaticity of the relationship between the independent and dependent variables in DSH studies. Here we are discussing individuals and the implicit assumptions of DSH models about their political interests.

15. This reflection was shared with me by Paul Sabatier in correspondence.

16. Again, this empirical base of comparative state studies has been closely linked to, and has influenced and been influenced by, the literature on policy innovation and diffusion (see Berry and Berry, Chapter 8, in this volume).

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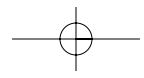
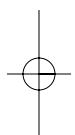
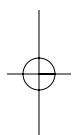
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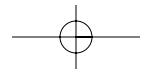
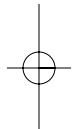
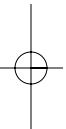
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PART FIVE

Conclusions



10

A Comparison of Frameworks, Theories, and Models of Policy Processes

EDELLA SCHLAGER

The striking diversity of approaches developed and used by top policy scholars raises questions concerning the meaning of “the policymaking process.” The term process connotes temporality, an unfolding of actions, events, and decisions that may culminate in an authoritative decision, which, at least temporarily, binds all within the jurisdiction of the governing body. In explaining policymaking processes, the emphasis is much more on the unfolding than on the authoritative decision, with attention devoted to the structure, context, constraints and dynamics of the process, as well as to the actual decisions and events that occur.¹

Explanations of the policymaking process rest in theories and models, which should be, but typically are not, grounded in a framework (Ostrom, Chapter 2, this volume). As Ostrom argues, frameworks play a critical role in the cumulation of knowledge. Frameworks bound inquiry and direct the attention of the analyst to critical features of the social and physical landscape. Frameworks provide a foundation for inquiry by specifying classes of variables and general relationships among them. Frameworks organize inquiry, but they cannot in and of themselves provide explanations for, or predictions of, behavior and outcomes. Explanation and prediction lie in the realm of theories and models. Or, as Ostrom states: “Frameworks organize diagnostic and prescriptive inquiry . . . They attempt to identify the universal elements that any theory relevant to the same kind of phenomena would need to include.” Finally, frameworks provide a metatheoretical language that can be used to compare theories, allowing policy scholars using different theories to use a common language, to learn from one another, and to identify pressing questions to pursue.

The relations among a framework, its theories, and the theories' models are dynamic. Frameworks provide theories with the general classes of variables that are necessary to explain phenomena. As theory development proceeds, frameworks may be revised to provide additional content and specificity to general classes of variables. Furthermore, theories are tested and revised through the development of models. All of the conceptual levels, from the most general of the framework to the most specific of the model, work together in an interactive way to support development and cumulation of knowledge.

For Ostrom, working with and moving from frameworks to theories and from theories to models demands a certain self-consciousness and explicitness from the policy scholar. It disciplines the scholar to carefully situate her work among the theories that cluster within a framework, to delineate and bound her work, and to avoid confusing models with theories, which often leads to unwarranted claims about the generalizability and explanatory power of the model.

As a careful reading of the papers in this volume reveals, policy scholars do not explicitly identify the framework within which their work is situated, nor are they always careful to distinguish between theories and models. Only two papers explicitly identify a framework and situate their work within it; the frameworks are the advocacy coalitions framework (ACF) and theory and the institutional analysis and development (IAD) framework and associated theories, most prominently, common-pool resource theory. The remaining chapters inhabit the realm of theories, such as the punctuated-equilibrium theory, the multiple-streams theory, policy networks theory, and social constructions theory, and one paper deals exclusively with models—U.S. state policy adoptions.

This chapter takes Ostrom's argument to heart and utilizes the frameworks, theories, and models approach in two ways: (1) as a useful tool to make consistent comparisons among the models, theories, and frameworks found in the chapters; (2) to explore how and whether the models in this volume can inform and contribute to the theories, how the theories may cluster together and inform one another, and in turn whether the theories may be placed within either one of the two frameworks found in this collection.

MODELS

According to Ostrom, "Models make precise assumptions about a limited set of parameters and variables." Models allow analysts to test specific parts of theories by fixing a limited number of variables at specific settings and exploring the outcomes produced. The use of models to test, revise, and further develop theory is illustrated through the work of Ostrom and her colleagues in relation to common-pool resource theory. For instance, a model of a simple, open-access common-pool resource has been developed and extensively tested (Ostrom, Gardner, and Walker 1994). The theory predicted that a common-pool resource in which there are no restrictions on entry or use will be overutilized and possibly destroyed. In fact, tests of the model support the theory's prediction.

The theory also predicted that communication among resource users would not affect outcomes, because communication does not change the payoff structure: communication neither supports nor detracts from the incentives users face concerning the common-pool resource. When the model is changed to allow for communication among resource users, users typically determine the optimal level of harvesting from the resource, agree upon a set of rules that will guide their harvesting behavior, and capture, rather than dissipate, most of the resource rent. The outcomes produced by a model of an open-access common-pool resource that permits communication among resource users presented an anomaly in the theory. Ostrom and others have returned to the theory to revise and further develop it. In the case of the theory of common-pool resources, theory supports model development, and models support theory development.

Using models to test and revise theories is not necessarily the norm in policy studies. Models may be developed, tested, revised, and further tested without attempts to use the models to develop theories. A notable example is the work of Berry and Berry on the adoption and diffusion of policy innovations among the U.S. states (see Chapter 8, this volume). Berry and Berry have used multiple approaches to develop better models.

First, they have systematically demonstrated the fundamental flaws of commonly used models and in so doing illustrated the lack of theory development. For instance, as they note, the national interaction model is structured around a limited set of variables: "The probability that a state will adopt a program is proportional to the number of interactions its officials have had with officials of already-adopting states." However, the model does not differentiate among states. All states are equally likely to adopt a policy. If an analyst does not want to make such an extreme assumption, then, as the Berrys point out, the analyst must "introduce a priori predictions about which states will never adopt (and for what reasons these states are 'immune')."² That is, the analyst will have to turn to theory to guide her hypotheses about state behavior; however, such theory does not exist.²

Second, Berry and Berry have convincingly demonstrated the shortcomings of the methods used to test the models of policy innovation. Third, they have engaged in a careful research program using more appropriate and sophisticated methods, namely, event history analysis, to develop and test more complex models of policy innovation. As Berry and Berry note, their model and their methods have been widely adopted and expanded upon.

If the work of Berry and Berry were to be incorporated within existing theories of policy processes or used to develop a theory of policy innovation, what would the theories look like? Probably much like the theories that appear in the chapters of this volume. For instance, many of the factors that Berry and Berry point to as motivating states to adopt new policies—problem severity, elections, capabilities and resources of actors, and policy entrepreneurs—appear in the agenda setting and policy adoption/change theories in this volume. Most notable, however, in that it suggests that policy innovations models could certainly benefit from explicit linkages with existing, well-developed, and widely used theories of the

policymaking process, are what Berry and Berry call ad hoc variables: interest groups, unions, and other organized interests active in a particular policy subsystem. The variables that Berry and Berry call ad hoc are at the center of theories of the policy process. Indeed, as Blomquist notes, if comparative state policy studies are to adequately capture policymaking processes they will have to directly and explicitly incorporate human agency (see Chapter 9, this volume). Consequently, there appears to be considerable promise in more closely linking policy innovations models with well established theories.

If the policy innovations model of Berry and Berry is closely related to agenda setting and policy change theories, what does the model have to offer these theories? That is, can the policy innovations model be used, like models in common-pool resource theory, to test, revise, and extend theories of policymaking processes? To answer these questions requires a consideration of the theories and, ultimately, of frameworks.

THEORIES

Theories place values on some of the variables identified as important in a framework, posit relationships among the variables, and make predictions about likely outcomes. For instance, the theory of common-pool resources makes a series of predictions about the ability of resource users to organize themselves and develop self-governing institutions, about the robustness of self-governing institutions, about the effects of resource user behavior on the sustainability of the resource, and so forth, depending on the values of the variables that define the institutional arrangements, the characteristics of the resource, and the characteristics of the resource users. These variables are derived from the IAD framework, with more specific values placed on them, reflecting the situation to be explained. In this section, the following theories will be compared and contrasted: common-pool resources, advocacy coalitions, social constructions, policy networks, punctuated-equilibrium, and multiple-streams. The criteria are those set out by Blomquist in his examination of large-*N* comparative policy studies. Those criteria are (1) boundaries and scope of inquiry, (2) a model of the individual, (3) collective action, (4) institutions, and (5) policy change. These criteria represent essential elements of theories of the policymaking process and provide critical points of comparison for the six theories. Criteria 1 and 2, boundaries and scope of inquiry and model of the individual, are methodological and permit an examination of the extent to which the theoretical approaches explain the same phenomena from the same starting point, as well as an examination of the comprehensiveness of the theories (Schlager and Blomquist 1996, p. 658). Criteria 3, 4, and 5 capture necessary aspects of theories of policymaking processes. If theories of policymaking processes "explain how interested political actors interact within political institutions to produce, implement, evaluate, and revise public policies" (Schlager and Blomquist 1996, p. 653), then the theories must pay careful attention to the col-

lective action of actors, the institutions that provide the context for that action, and how policies change over time.

BOUNDARIES AND SCOPE OF INQUIRY

The theories appearing in this volume may be sorted into two groups: common-pool resource theory and the others. Common-pool resource theory (and closely related theories such as local public economies) explains the conditions that support self-governance on the part of citizens. Careful attention is paid to the variety of institutional arrangements that citizens create, how citizens amend and revise the institutions, how the institutions are tied into larger scale governing structures, and how the institutional arrangements perform. Thus, unlike the agenda setting and policy adoption theories and models that have largely focused on state or regional and national decision settings, common-pool resource theory has largely concentrated on local and regional settings worldwide. Furthermore, common-pool resource theory does not focus only on agenda setting or only on policy adoption; rather, in explaining citizen self-governance, it encompasses all of the stages of the policymaking process, from the supply of policy or institutional arrangements (i.e., the pre-decision and decision processes) to the implementation and evaluation of policy.

The theories of agenda setting and policy adoption cluster together nicely, complementing one another even as they focus on different variables at different scales, because they focus on pre-decision- and decisionmaking processes and policy subsystems, primarily in the United States, although there has been some effort to expand explanations across western democracies.

At the most coarse scale is the punctuated-equilibrium theory. This theory accounts for system-level *patterns* of decisions or policy adoptions surrounding a policy subsystem. The patterns are characterized by long periods of incrementalism punctuated by periods of major policy change and are generated by the interaction of boundedly rational people in institutional settings characterized by parallel and serial information processing. As True et al. explain, "It is the intersection of the parallel processing capabilities of the policy subsystems and the serial processing needs of the macropolitical system that creates the nonincremental dynamics of lurching that we often observe in many policy areas" (see Chapter 6, this volume). The features, or variables, of the policymaking process that True et al. use to explain patterns of decisions are few in number—interest mobilizations, policy image, and venues—making it the most parsimonious of the theories.³

Multiple-streams theory too focuses on agenda setting and decisionmaking. Rather than explain patterns of decisions, however, the theory attempts to explain why policymakers adopt some policies and not others. Like punctuated-equilibrium theory, the answer rests heavily on boundedly rational people interacting in institutional settings characterized by parallel and serial information

processing. But the policymaking process is relatively complex, featuring many variables. Perhaps that is because Zahariadis (Chapter 3, this volume) is attempting to explain particular policy adoptions and not patterns of adoptions, which requires greater attention to timing, sequencing, and other more idiosyncratic aspects of policymaking processes. As Zahariadis explains: "During open policy windows persistent policy entrepreneurs, who constantly search for solutions to important problems, attempt to couple the three streams. Success is more likely when all three streams are coupled, conditional on the type of window that opens and the skills, resources, and strategies of entrepreneurs to focus attention and bias choice."

The advocacy coalitions theory, in attempting to explain policy change within a policy subsystem over relatively long periods of time, also fleshes out the policymaking process more completely. While boundedly rational people play a central role in the explanation of policy change, it is boundedly rational people in the context of advocacy groups and not in institutional arrangements characterized by parallel and serial processing. Also, the outcomes the theory explains are different from both punctuated-equilibrium theory and multiple-streams theory. The advocacy coalitions theory does not attend to patterns of decisions or to particular policy adoptions; rather, it attempts to explain policy changes in a subsystem over a period of a decade or more. Most of the empirical work within the advocacy coalitions theory has focused on identifying advocacy coalitions by measuring belief systems, identifying policy subsystems, and identifying the mechanisms that promote policy change. More recent efforts have attempted to generalize the theory beyond pluralist systems, such as that of the United States (see Chapter 7, this volume).

Policy networks theory has much in common with the advocacy coalitions theory, particularly in its emphasis on the configuration and interaction of coalitions of actors within a particular policy network or policy subsystem, with much less attention devoted to policy adoptions. Policy networks theory, however, rests much of its explanation on institutional arrangements and not on belief systems and actors acting out of their beliefs. The dynamics of a particular policy subsystem are a function of the capabilities of the actors and their mode of interaction. Both dimensions are strongly affected by a country's type of governing system. However, the authors recognize that in addition to institutional arrangements, the structure and dynamics of policy subsystems are affected by other factors. They state, "As policy networks vary within nation states, policy- or domain-specific factors have to be taken into account to explain the emergence and form of policy networks in specific policy subsystems." Those factors include whether policies encourage interest mobilization and participation, exogenous shocks such as changes in technology, and the role of ideas (see Chapter 5, this volume).

Social constructions theory too has much in common with the advocacy coalitions theory, not through a focus on policy subsystems like policy network theory, but through a model of the individual and human perceptions and beliefs. Both theories argue that policies reflect beliefs or social constructions (which

could be considered a subset of beliefs). Consequently, if an analyst wants to understand policy adoptions, then the analyst must identify and explain how beliefs or social constructions play out in the policymaking process. This is where the two theories part ways. For the advocacy coalitions theory, beliefs are the glue that bring and hold coalitions together, and it is the competition, conflict, and sometimes cooperation of coalitions (along with a number of other factors) that produce policy change. That is, politics affects policies. For social constructions theory, the design or content of policies and how benefits and burdens are distributed are a function of the social constructions and political power of target groups. Positively viewed, politically powerful groups tend to disproportionately reap benefits and avoid burdens. Negatively viewed, politically weak groups tend to disproportionately reap burdens and are denied benefits. Policies in turn affect political participation by target groups, and politicians attempt to manipulate social constructions to their advantage. In other words, policies affect politics. Given that social constructions are deeply embedded and resistant to change, how do policies change? Social constructions theory suggest multiple pathways: for example, science may change individuals' perceptions, or some policies simply overreach, unleashing a backlash against them.

The agenda setting and decision theories presented in this volume are closely related to one another. Although they vary in their scope and explanatory variables, they attempt to account for similar processes. A reasonable argument could be made that these are a family of theories. This raises the question of whether they may fit within the same framework. Ostrom's conception of frameworks, theories, and models suggests that they should, and one of the theories is explicitly drawn from a particular framework. Is the advocacy coalitions framework capable of encompassing these theories? What do the theories have to offer the framework and vice versa? Addressing these questions requires a more careful comparison of the theories, provided below, and a more thorough discussion of frameworks, provided in the next section. In the conclusion to this chapter, I will briefly sketch out some answers.

MODEL OF THE INDIVIDUAL

Each of the theories uses some type of bounded rationality model to explain behavior. The contexts of policymaking drive the assumption of bounded rationality. Uncertainty, complexity, and weak selective pressure (Ostrom, Chapter 2, this volume) characterize those contexts. Or, as Zahariadis (Chapter 3, this volume) explains:

The problem under conditions of ambiguity is that we don't know what the problem is; its definition is vague and shifting. Distinguishing between relevant and irrelevant information is problematic, which can lead to false and misleading facts. Choice becomes less an exercise in solving problems and more an attempt to make sense of a partially comprehensible world.

Substantial variation exists, however, among the rationality models. The theory of common-pool resources, punctuated-equilibrium theory, and policy networks theory use a similar model of bounded rationality. In the theory of common-pool resources, complex situations involving unstructured problems strongly affect assumptions concerning selection criteria, preferences, and information processing capabilities. Individuals are not maximizers. Instead, they are satisficers: "Appropriators in many settings are strongly motivated to find better solutions to their problems if they can" (Ostrom 1990, p. 34). Searching for better solutions, however, is constrained and guided by norms of behavior: "Norms of behavior therefore affect the way alternatives are perceived and weighed" (Ostrom 1990, p. 35). Norms of reciprocity, for instance, limit opportunistic behavior. Individuals who are guided by reciprocity will generally not attempt to improve their welfare at the expense of others.

Furthermore, complex situations involving unstructured problems mean that "assuming complete preference functions of any shape is not meaningful" (Ostrom 1990, p. 38). Thus, preferences may become more complete as individuals gain a better understanding of their situation over time. The extent to which individuals gain a better understanding of their situation is affected by their information processing capabilities. Information processing capabilities are limited by the context of the situation and the information that is available at any point in time. Within a common-pool resource setting, uncertainty may be quite high, both about the structure and dynamics of a common-pool resource and about the actions of resource users in relation to the resource and to each other. Uncertainty can never be completely eliminated. Not only are certain processes, such as rainfall or disease, unpredictable, but the institutions within which resource users act provide different incentives and opportunities to learn. Thus, "the only reasonable assumption to make about the discovery and calculation processes employed is that appropriators engage in a considerable amount of trial-and-error learning" (Ostrom 1990, p. 34).

Individuals within the theory of common-pool resources may use information strategically, and they may act opportunistically. However, for the most part, individuals are presumed to search out and gather information to better their understanding of the world and to reduce their mistakes: "Over time, however, they can acquire a greater understanding of their situation and adopt strategies that result in higher returns" (Ostrom, Chapter 2, this volume). Thus, individuals within the theory of common-pool resources are intendedly rational, but because of the complex situations and poorly defined problems that they confront, their preferences may be poorly structured, the information they possess may be incomplete, and thus, they will learn through experience.

The model of the individual found in the punctuated-equilibrium theory is similar to that found in the theory of common-pool resources. Preferences are relatively fixed and slow to change. Furthermore, explanation is grounded in characteristics of the decisionmaking process, and not in "internal calculation

processes." Characteristics of the decision setting are critical because they frame the problem individuals confront. Individuals, because of their limited information processing capabilities, do not attend to all characteristics of a situation. Instead, they attend to those that appear to be most salient, and they make their decisions on that basis. According to Jones (1994, p. 8), "Preferences get activated by how individuals interpret context, and it is this combination of preferences and context that yields choice."

Individuals confronted with the same situation at two different times may make different decisions each time, not because their preferences changed, and not because they possess better information, but because they attend to different characteristics of the same situation each time. Thus, characteristics of the situation are critical for the individual in punctuated-equilibrium theory because the characteristics that the individual attends to determine her or his choice.

This "twist" on the model of the individual used in the theory of common-pool resources not only represents a progressive problem shift but makes possible a more complex use of information. Recall that the use of information in the theory of common-pool resources is straightforward. Information may occasionally be used opportunistically to advance one's welfare at the expense of others, but more typically, information is used to update the individual's understanding of the world and thereby to adopt strategies that make the individual better off. Thus, if an individual makes a different choice in an identical situation later in time, that choice is not the result of changing preferences or shifts in attention; it is most likely the result of an improved understanding of the situation.⁴

Information in punctuated-equilibrium theory may be used for updating individuals' understanding of the world, but information may also be used to reframe a situation; that is, information may be used to change which characteristics of a situation individuals pay attention to and thereby change their choices. Individuals' frames of reference may be manipulated through the use of information. As Jones (1994, p. 23) argued: "Information is viewed as inherently ambiguous, so that there is a very important role for leadership and policy entrepreneurship in the framing of issues. . . . The manipulation of information plays a key role in forcing governmental attention to problems."

The model of the individual is not well specified in policy networks theory. Its close ties to game theory and its heavy reliance on institutions as explanatory variables, however, suggests that its model of decisionmaking would be similar to that of common-pool resource theory or punctuated-equilibrium theory.

The model of the individual found in the theory of advocacy coalitions is boundedly rational, just as in the previously discussed theories. However, the similarities end there. Instead of focusing on the structure of the situation to explain individual decisionmaking, the theory of advocacy coalitions empirically identifies the inner world of individuals and uses it to explain individual action. The parts of the inner world that are empirically verified are belief systems. Belief systems are a set of basic values, causal assumptions, and problem perceptions

(Sabatier 1988, p. 139). Belief systems, not characteristics of the situation, determine individual choices and actions. Acting on the basis of their beliefs, individuals form coalitions and press to have their beliefs realized in public policy.

Belief systems, as well as limited information processing abilities, affect how individuals acquire, use, and incorporate information. Belief systems may act as information filters, with individuals resisting or rejecting information that challenges their core beliefs and readily incorporating information that is supportive. Furthermore, information may be used in a variety of ways, from persuading others of the correctness of an individual's position to maintaining solidarity among members of a coalition.

The model of the individual underlying social constructions theory is not explicitly identified by the authors of the chapter, but a reasonable assumption is that it would be similar to that found in the theory of advocacy coalitions (see Chapter 4, this volume). The origins of social constructions are mostly likely the belief systems of individuals. Like belief systems, social constructions influence individual choices and actions. Thus, the decisionmaking model within social constructions theory requires people who respond to and manipulate symbols, whose beliefs filter information, and who act on their biases; otherwise, social constructions would have little staying power, and consequently, little explanatory power.

The individual within the multiple-streams theory is firmly grounded in Simon's boundedly rational individual and the garbage can model of choice (Zahariadis, Chapter 3, this volume). Thus, although each model begins from a similar starting point, several of the models diverge to present interesting and useful twists on the boundedly rational model of the individual. Ostrom's boundedly rational individual is an "updater" in a complex world, and so too for Adam and Kresei. The boundedly rational individual for True, Baumgartner, and Jones is a "selective attender." The individual for Sabatier and Weible is a "believer," as it probably is for Ingram, Schneider, and deLeon. For Zahariadis, as for Simon, the individual is a "satisficer."

COLLECTIVE ACTION

Policy change occurs as a result of collective action. Because each theory is grounded in a model of the individual, how individuals come together, organize themselves, and promote policy change is important. The theories differ substantially in their explanations of collective action. The multiple-streams theory pays the least attention to collective action as a process of individuals coming together to achieve a shared end. Instead, the theory focuses on the critical roles played by certain individuals, or policy entrepreneurs, and the conditions that support broad-based collective action that leads to major policy change. As Kingdon (1994, pp. 220–221) stated: "One nice property of this picture of agenda change involving entrepreneurial activity is that it makes some sense of 'great

man' theories of history. . . . Policy entrepreneurs do not control events, but they can anticipate them and bend events to their purposes to some degree." The conditions that support the emergence of broad-based collective action are those that support the coupling of events and the activities of policy entrepreneurs.

Like the multiple-streams theory, the punctuated-equilibrium theory pays attention to policy entrepreneurs. The actions and strategies of policymakers play a critical role in explaining policy change. Change, however, does not occur just through the actions of well-situated individuals. Change results as well from collective action, whether that action involves mass mobilizations, a collection of interest groups, or groups of policymakers. Instead of examining the emergence of groups and the coordinating mechanisms used to promote collective action, however, the punctuated-equilibrium theory examines the "residue" of collective action, such as changes in policy images and changes of venues. In other words, punctuated-equilibrium theory does not pay attention to how interests organize themselves. Rather, it pays attention to the consequences of such organization and activity.

Much the same may be argued for policy networks theory. Collective action on the part of the actors is assumed, and the focus is on the distribution of power among actors. As the authors explain: "To characterize a network, we are interested in the distribution of capabilities over the set of actors, that is, in the *power structure* within a policy subsystem This dimension is above all concerned with whether power is *concentrated* in the hands of one dominant actor or coalition of actors or whether it is *shared* between actors or coalitions of actors" (Adam and Kriesi, Chapter 5, this volume).

The advocacy coalitions theory, social constructions theory, and common-pool resource theories pay very careful attention to collective action, although in substantially different ways. The advocacy coalition theory pays close attention to collective-action issues because of the theory's definition of a coalition. Furthermore, coalitions are not assumed to exist; rather, their existence must be empirically verified through the identification of a coalition's belief system and through a demonstration of coordinated action among the coalition's members. The initial version of the theory did not attend to collective-action processes and instead assumed that individuals who held shared beliefs would act collectively to realize those beliefs. Only more recently have the theory's creators incorporated concepts and hypotheses designed to capture the emergence and continuation of collective action. As Weible and Sabatier note (see Chapter 7, this volume), the theory suggests three possible explanations for collective action: "First, the transaction costs of participating in a coalition are relatively low compared to other forms of collective behavior because of shared belief systems, high trust, and willingness to distribute costs fairly. Second, the perceived benefits of participating in a coalition are exaggerated, especially when policy participants experience the devil shift in high conflict situations. . . . Third, the level of

coordination within a coalition varies from 'strong' (e.g., developing a common plan and implementing that plan) to 'weak' (e.g., monitoring ally activities and responding with complementary strategies)." Also, as they note, none of the three explanations have been empirically tested. This is a major shortcoming in the development of the theory, not just because collective action plays a central role in the definition of advocacy coalitions, but because explaining policy change over time requires attention to action. Collective action is the critical link between beliefs and outcomes, and to date, the link is missing.

Social constructions theory provides explanations for patterns of collective action, that is, which target populations are likely to be politically active and participate in policymaking processes and which are not. Political participation rests largely with policies and their design. As Ingram et al. explain, "Policy designs affect participation through rules of participation, messages conveyed to individuals, resources such as money and time, and actual experiences with policy as it is delivered through case workers, police, or public agencies." Overall, target populations that are politically powerful (whether they are viewed positively or negatively) are the beneficiaries of policies that encourage them to actively participate. Target populations that are not politically powerful (whether they are viewed positively or negatively) are subject to policies that actively discourage them from participating. Admittedly, this explanation of collective action is somewhat limited. For instance, it cannot account for the times, unusual though they may be, when the politically less powerful become mobilized and politically active. Also, the predictions are not particularly enlightening. What is needed is to more clearly identify the influence of positive and negative social constructions on political participation.

The centerpiece of the theory of common-pool resources is an explanation of collective action that challenges those found in three different but dominant models: the tragedy of the commons, the prisoner's dilemma, and the logic of collective action (Ostrom 1990). These three models make strong assumptions about the inability of individuals to cooperate to achieve outcomes superior to those achieved by individuals acting alone. The theory of common-pool resources challenges such strong assumptions. However, it does not presume that individuals will act in concert, particularly if they share a common set of beliefs. Instead, it posits a set of attributes of the resource and of appropriators that support collective action and inhibit free-riding behavior. Attributes of common-pool resources are:

1. Feasible improvement: Resource conditions are neither at a point of deterioration such as it is useless to organize nor so underutilized that little advantage results from organizing.
2. Indicators: Reliable and valid indicators of the condition of the resource system are frequently available at a relatively low cost.
3. Predictability: The flow of resource units is relatively predictable.

4. Spatial extent: The resource system is sufficiently small, given the transportation and communication technology in use, that appropriators can develop accurate knowledge of external boundaries and internal microenvironments (Ostrom 2000, p. 40).

The attributes of appropriators include:

1. Salience: Appropriators are dependent on the resource system for a major portion of their livelihood or other important activity.
2. Common understanding: Appropriators have a shared image of how the resource system operates . . . and how their actions affect each other and the resource system.
3. Low discount rate: Appropriators use a sufficiently low discount rate in relation to future benefits to be achieved from the resource.
4. Trust and reciprocity: Appropriators trust one another to keep promises and relate to one another with reciprocity.
5. Autonomy: Appropriators are able to determine access and harvesting rules without external authorities countering them.
6. Prior organizational experience and local leadership: Appropriators have learned at least minimal skills of organization and leadership through participation in other local associations or by studying ways that neighboring groups have organized (Ostrom 2000, p. 40).

Finally, the theory of common-pool resources does not place as much weight on political entrepreneurs' acting as the spark for collective action. Although entrepreneurs easily fit within the theory, greater attention is given to other factors, factors that most likely support the emergence of entrepreneurship as well as collective action. Thus, instead of assuming that individuals rarely cooperate, or that individuals typically cooperate, or that collective action depends on the actions of an entrepreneur, the theory of common-pool resources focuses on the characteristics of the physical world, the community, and the rules-in-use to explain collective action.

INSTITUTIONS

Not only do the theories provide different treatments of collective action, but they also provide different treatments of the context within which individuals act: the institutional setting. Social constructions theory pays little attention to institutions, even though in the "framework" presented in Figure 4.1 there is a category entitled "Institutions and Culture." The subcategories deal with aspects of culture with no institutional arrangements included. Institutional arrangements also do not appear in the list of propositions. The only point at which institutions explicitly appear is in policy designs. Policy designs are designs for

institutional arrangements, among other things, but how the institutional aspects of policy designs contribute to explanations of the policymaking process or policy adoptions is very narrowly construed. Policy designs either promote or inhibit political participation. Larger institutional settings are not included. Thus, the many ways in which institutions appear in the other theories, as governing systems, as structures of policy subsystems, as different types of venues, etc. are not to be found in social constructions theory. Consequently, this may be an area ripe for additional work. For instance, to what types of governing systems does the theory apply? Or, how do differently structured policy subsystems constrain and shape social constructions?

The multiple-streams theory pays very limited attention to institutional arrangements. The focus largely remains on individual behavior and the behavioral factors that affect individual choice, and little attention is paid to the institutional context of decisionmaking. For instance, the political stream is the most amenable to and the most likely to encompass institutional arrangements as part of the explanation. This stream consists, however, of "the national mood, pressure-group campaigns, and administrative or legislative turnover" (Zahariadis, Chapter 3, this volume).⁵ Even the refinement of Zahariadis, combining the three variables into one ideology of governing parties, does not capture institutional arrangements, although the refinement was prompted by his extension of multiple-streams theory to encompass more than just the governments of the United States.

Also, the focus on policy entrepreneurs very indirectly brings in institutional arrangements. The institutional positions of entrepreneurs affect their ability to successfully couple the streams: "Higher administrative or partisan rank increases access and potential influence over decisionmakers" (Zahariadis, Chapter 3, this volume). And institutional position affects an entrepreneur's access to and choice of strategies for joining streams.

Additional development of how policy communities are structured has led to the incorporation of institutions within the policy stream. Zahariadis (1997, pp. 21–22) states that the structure of policy communities within the proposal stream affects the trajectory of policies, that is, whether they are rapidly developed and swiftly moved to prominence. Less integrated networks tend to be larger, more open, and more competitive, allowing for major policy innovations to more readily come bubbling to the top. Highly integrated networks tend to be smaller, consensual, and closed, limiting the emergence of policy innovations.

Incorporating institutional structure within the politics stream would allow the theory to capture critical traits of specific governing structures and would further the work of Zahariadis in generalizing the theory across different governing systems. As the advocacy coalition, common-pool resources, and punctuated-equilibrium theories demonstrate, different venues (i.e., different institutional arrangements) even within a single governing system powerfully affect the policy decisionmaking process. Clarifying the institutional structures of different venues would allow the multiple-streams theory to better identify the varying

processes of the politics stream and how different processes affect the coupling of the streams. Finally, defining the institutional structure within which streams are coupled and through which major policy changes occur would permit consistent and controlled comparisons across a range of policies.

In the punctuated-equilibrium theory, institutional arrangements play a significant role in major policy change. Institutional arrangements appear at a number of different junctures. First, the structure of governing systems sets the general context that affects political decisionmaking. The U.S. political system of “separated institutions, overlapping jurisdictions, and relatively open access to mobilizations” supports policy stasis (True, Jones, and Baumgartner, Chapter 6, this volume). Policy challengers must overcome a number of veto points in order to realize the adoption of their preferred policies. On the other hand, “Once a mobilization is under way the diffuse jurisdictional boundaries that separate the various overlapping institutions of government can allow many governmental actors to become involved in a new policy area” (True et al., this volume). Thus, much of the time, policy activity occurs within policy subsystems that allow for adjustment, but not major policy change. When policy subsystem processing breaks down, policy problems are addressed by macropolitical institutions: Congress and the president. It is in these institutions that major changes tend to occur.

Second, within a governing system, there are often multiple venues that control or have the potential to engage in decisionmaking around a policy issue. One means of controlling a policy is to control the venue that oversees the policy. Conversely, a critical strategy for instigating policy change is to try to change venues or to have participants from other venues become involved in the policy issue. As Baumgartner and Jones (1991, p. 1047) stated: “Each venue carries with it a decisional bias, because both participants and decisionmaking routines differ. When the venue of a public policy changes, as often occurs over time, those who previously dominated the policy process may find themselves in the minority, and erstwhile losers may be transformed into winners.”

Institutions not only establish the general framework within which decisions are made but also play a critical role in defining the strategies of individuals and groups as those political actors search for receptive decisionmakers and decision-making venues. Consequently, institutional arrangements may affect the magnitude of policy punctuations.

Institutional arrangements play a significant role in explaining the structure and dynamics of policy subsystems, as well as changes in beliefs and policy in the advocacy coalitions theory. Policy subsystems are shaped and constrained by the larger governing system. A recent addition to the framework, coalition opportunity structures, allows for an explicit incorporation of critical institutional features into the theory. Coalition opportunity structures are a combination of cultural and institutional features. The institutional features include the degree of consensus needed for policy change and the openness of the political system.

Both of these variables are directly related to institutional arrangements that define systems of government, and they both affect the structure and functioning of policy subsystems.

Another addition to the framework that has implications for the effects of institutions on the dominance and influence of coalitions within a policy subsystem is coalition resources. One of the resources is formal legal authority to make policy decisions. As Sabatier and Weible explain, "Major strategies for coalitions include placing allies in positions of legal authority through elections or political appointments or crafting and launching political campaigns to sway officials with legal authority." Institutional position and resources can give a coalition substantial influence beyond its numbers.

Additional attention to institutional arrangements may help address the collective action shortcomings of the theory. Institutional arrangements critically affect individuals' choices of strategies and venues in at least two ways. First, the institutional context within which coalitions decide their strategies and choose venues in which to pursue their policies affects their actions. A policy subsystem dominated by an independent commission versus an executive agency headed by a political appointee presents many fewer political points of access through which to influence the agency, and therefore, a coalition's choice of strategies would be different in each case. In addition, institutional structure affects the ease with which coalitions may move among different levels of action in pursuit of policy change. From the rules governing the placement of initiatives on the ballot, to the rules governing how public agencies conduct public hearings, to the rules governing the standing required to bring a lawsuit, institutional arrangements affect the attractiveness of various strategies. Second, the institutional positions of members of a coalition affect the choices of strategies and venues and the collective-action capabilities of coalitions.

The policy networks theory and the theory of common-pool resources pay the most attention to institutional arrangements. For both theories, institutional arrangements are central explanatory variables. In policy networks theory, types of governing structures strongly influence policy subsystems. As Adam and Kriesi explain: "The national context can be systematically linked to the distribution of power and the type of interaction within policy subsystems, i.e. to the two dimensions of our network typology. Thus, both key aspects of policy networks are influenced by the *formal national institutional structure*" (Chapter 5, this volume). The authors also recognize that institutional arrangements affect the dynamics of implementation of policies; however, that part of the theory requires additional development. "Combining the typologies of the two arenas into a single one is a critical task for the specification of the national political context conditions for policy networks" (*ibid.*).

Ostrom (Chapter 2, this volume) defines institutions as "the shared concepts used by humans in repetitive situations organized by rules, norms, and strategies." Institutions play two critical roles in the theory of common-pool resources.

First, institutions provide the structure within which individuals interact and the incentives that individuals have in making choices about actions. Second, when individuals attempt to achieve better outcomes, they turn to collective-choice and/or constitutional-choice institutions to change operational-level institutions. In other words, individuals use institutions to attempt to change the rules of the game in order to achieve improved outcomes. The theory of common-pool resources rests the weight of explanation primarily on institutions.

Institutions are treated at a microlevel within the theory of common-pool resources. Individual rules, classified by means of the IAD framework, are painstakingly identified, for it is through the configuration of rules, characteristics of the physical system, and culture that explanations are developed and predictions are derived. As Ostrom demonstrates, this approach has been remarkably productive and successful in explaining the emergence and maintenance of self-governing institutions for the management of common-pool resources.

A microlevel approach to institutions does, however, make the theory of common-pool resources unusually complex. First, in any given action situation except for the simplest, hundreds of rules are in operation and can potentially be called upon by the participants. Certainly the participants, let alone the analyst, cannot attend to all of the rules all at once. Although the participants may have an idea of the rules that they attend to at any given time, and of the rules they may call upon if circumstances change, the outside analyst does not. Thus, the analyst is left with little guidance in trying to identify and interpret rules.

Second, the difficult position of the analyst is further compounded by the configural nature of rules. As Ostrom (Chapter 2, this volume) points out: "The impact on incentives and behavior of one type of rule is not independent of the configuration of other rules. . . . One needs to know the value of other variables rather than simply asserting that they are held constant." For an analyst to make sense of a situation, she or he not only must identify the numerous rules that structure an action situation but must also come to understand the configural relationships among those rules, particularly if she or he intends to make meaningful policy recommendations.

Unfortunately, the IAD framework, from which all of this complexity emerges, and the theory of common-pool resources fail to provide any guideposts to direct the analyst to particular rules and not others. That is, there are no metarules for guiding the analyst through this complexity. Good judgment and perseverance are the analyst's best friends.

POLICY CHANGE

Frameworks, theories, and models of the policy process, by definition, must account for policy change. Each of the theories comes to grips with policy change slightly differently. All of the theories but one, common-pool resources theory, attempt to account for major change.

Multiple-streams, punctuated-equilibrium, and advocacy coalitions point to similar types of events and factors that set the stage for major policy change. These factors include dramatic events or crises, changes in governing coalitions, and administrative and legislative turnover, although the advocacy coalitions theory has begun to pay attention to events or situations endogenous to a policy subsystem as sources of policy change.

Macropolitical forces intervene to push an issue onto a government agenda. Once it is on an agenda, whether an issue catches fire depends (True et al., this volume). In the advocacy-coalition and the punctuated-equilibrium theories, policy change depends on what has occurred around the issue over a long period of time. Although major change may appear to occur overnight, it is preceded by a series of events, activities, and occurrences that may extend to several decades. Appearance on a government agenda is the outcome of a longer process of change, as policy images change and belief systems coalesce.

Even if this buildup has occurred, it does not guarantee major change. A large part of the explanation lies, at least for now, in serendipity. In the multiple-streams theory, serendipity revolves around the ability of political entrepreneurs to identify windows of opportunity that would permit them to successfully couple the streams. The advocacy coalition theory makes a similar argument. Proponents of policy change must recognize and exploit opportunities for change. In the punctuated-equilibrium theory, opportunities for change depend on a policy system's experiencing positive feedback. "Like earthquakes or landslides, policy punctuations can be precipitated by a mighty blow or by relatively minor events . . ." (True et al., this volume). Is it possible to predict which blow or minor event will promote rapid change? Not according to True et al. Punctuated-equilibrium, as a theory, can lead us to expect that these punctuations will happen and that the magnitude of change will be related to its frequency of occurrence, but it will not help us to make specific predictions for particular policy issues.

In a recent addition to the advocacy coalitions theory, Sabatier has added internal shocks and negotiated agreements as sources of change internal to a policy subsystem. Internal shocks may be thought of as focusing events, and negotiated agreements often occur when a policy subsystem is characterized by a hurting stalemate. A hurting stalemate occurs when the status quo is unacceptable, making coalitions receptive to policy change. In relation to both new additions, testable hypotheses are developed.

Policy networks theory ties the type of policy change to the types of interaction among the actors in a network. For instance, networks characterized by power concentrated in a single actor or coalition of actors and conflictual relations are moderately likely to experience major policy change. Networks characterized by concentrated power and bargaining relationships, however, have a low to moderate potential for incremental change. The hypotheses concerning types of policy change among differently structured networks require considerable testing, which remains to be done.

Social constructions theory addresses policy change in two ways. First, overreaching policies may stimulate sufficient mobilization and opposition that major policy change occurs. This may happen in two ways. A positively constructed, politically powerful target population may receive such a disproportionate level of benefit that it comes to be viewed as grossly unfair, stimulating corrective efforts. Another form of overreaching involves the scope of a policy. People who have political power may be included in a target population that is treated harshly by a policy. Utilizing their political power to mobilize, they will attempt to overturn the policy, at least as it relates to them. Second, there is a certain path dependency to public policies for target groups, especially the advantaged and the deviants. Even if a policy were adopted that contradicted the path dependency of policies to that group, eventually it would be revised to better fit the group. As the authors state, "When burdens are imposed on advantaged groups, the power resources and positive constructions of such groups are more likely to spark counter mobilization, resistance in implementation, legal challenges, and other defenses not typically available to dependents or deviants." Conversely, "Political tolerance for providing good things to bad people in the name of treating crime like an illness, is very low, and likely to be characterized by diminishing marginal returns. Such policies will quickly run out of support and/or produce opposition, leading to equilibrium type, pluralist change." Why burdens would be imposed on advantaged groups and benefits on deviant groups is unclear, although the explanation probably rests with temporary changes in social constructions. Note that the theory stays true to form; just as policy (and social constructions) explains politics, policy (and social constructions) explains policy change.

The theory of common-pool resources treats policy change, or institutional change, mostly as an incremental process. The supply of institutions is an iterative process. Appropriators invest in and build on small changes. Ostrom (1990) argued that even though the action situation may change substantially over a period of time, substantial change is likely to be the cumulation of a number of incremental steps.

Comparing the theories using a well-established set of criteria reveals the many commonalities of the agenda setting and policy adoption theories. They share similar, although not identical, boundaries and scope—patterns of policy decisions, particular policy adoptions, policy change over long periods of time, and patterns of policy across target populations. They share similar, although not identical, models of the individual—all relying on some form of bounded rationality. They each pay attention to collective action and institutions, although here the theories probably differ the most. For instance, the advocacy coalitions theory requires the specification of collective action mechanisms, whereas punctuated-equilibrium theory assumes that collective action occurs while tracking its consequences. And, all of the theories attend to policy change, with considerable overlap in the mechanisms used to account for it.

These theories are related, but are they related in the sense that Ostrom suggests in her discussion of frameworks, theories, and models? Do the policy innovation models have anything to contribute to the agenda setting and policy adoption theories? Are the theories sufficiently related that they could be incorporated within a single framework?

FRAMEWORKS

All of the theories and models presented in this volume derive from some sort of framework, although not all frameworks are explicitly identified. This section focuses on comparing explicitly stated frameworks. The criteria used are primarily comparative, and not evaluative. Criteria for comparing frameworks are not well developed. As Ostrom (Chapter 2, this volume) states, "The differences between frameworks, theories, and models are not even generally recognized." The criteria are (1) types of actors, (2) development of general classes of variables and relationships among them, (3) units of analysis, and (4) levels of analysis.

TYPES OF ACTORS

The chapters that explicitly present frameworks are Ostrom (Chapter 2) and Sabatier and Weible (Chapter 7). Blomquist (Chapter 9) identifies Hofferbert's model for the comparative study of policy formulation as a dominant framework in the comparative state policy literature, and it too will be included.

Frameworks must specify who motivates action or change. They must do so if they are to provide the basis for theory development. Theories, which provide explanations and not simply descriptions, tell stories of why actors act and to what effect. Numerous candidates could fill the role of actor, but these frameworks have a common type of actor; each framework posits the individual as the motivator of action. Thus, well-developed theories and models derived from the frameworks require that assumptions be made about individual behavior and about why individuals act as they do. The institutional analysis and development (IAD) framework most clearly specifies the individual as actor and posits a set of general variables that structure the individual. At a minimum, a theory based on the IAD framework must identify the structure of preferences, general types of selection criteria, levels and types of information an individual is likely to possess, and so forth.

Although the remaining frameworks do not identify general variables that structure the individual as explicitly as does the IAD framework, the advocacy coalition framework (ACF) certainly comes close. The individual is structured by a hierarchically ordered set of beliefs, the ability to process information, and a set of goals or preferences. Notice that the ACF does not require a specific model of the individual, just as the IAD framework does not suppose a specific model. The variables are so general that several different models of the individual could be used.

The Hofferbert framework suggests the individual as actor. For Hofferbert (1974), the final stage before policy adoption is elite behavior. However, elite behavior constitutes one of the least-developed aspects of the framework. Hofferbert failed to identify variables that could be used to adequately represent the concept (Hofferbert 1974; Mazmanian and Sabatier 1984). As Blomquist points out, many models derived from the framework do not attempt to represent individual actions.

VARIABLE DEVELOPMENT

In addition to positing actors, frameworks also posit general classes of variables that structure, constrain, guide, and influence the actions taken by actors. Once again, the IAD framework, followed by the ACF, provides the most well-developed classes of variables. The most well-developed classes of variables within the IAD framework are those that constitute the action arena. Theories derived from the framework must attend to participants, the positions they hold, the actions that they take, the information that they possess, the outcomes that are achieved, and the distribution of the costs and benefits of those outcomes. Somewhat less developed are some of the classes of variables that structure the action situation. Although the rules-in-use are clearly well defined and complete, the characteristics of the physical environment and of the community are not. Ostrom pointed to excludability, subtractability, and storage as important characteristics of the physical environment, although there are no doubt more. As Ostrom suggests, "Analysts diagnosing resource problems need to be sensitive to the very large difference among resource settings and the need to tailor rules to diverse combinations of attributes rather than some assumed uniformity across all resources in a particular sector within a country" (Chapter 2, this volume). No variables are developed to characterize critical features of a community, although Ostrom suggests such things as norms of behavior, common understandings, and homogeneity of preferences.

The ACF consists of well-developed classes of variables as well. Just as in the IAD framework, some classes of variables are better developed than others. For instance, the variables that characterize a stable, mature policy subsystem are carefully developed, as are the variables that constitute belief systems. On the other hand, many of the variables that need to be incorporated within the framework, and that need further development, thus far appear in the hypotheses. For instance, a critical set of variables for the ACF are forums in which coalitions contest and engage each other and perhaps eventually experience policy learning. Important characteristics of forums could be identified, and forums could be formally incorporated within the framework, or the concept of forums could be defined as political venues within which contestation and decisionmaking occur.

Variables within each of the policy stages of the Hofferbert framework are relatively well developed, with the exception of two of the stages: governmental

institutions and elite behavior. Hofferbert (1974), in his own empirical work, focused on the systemic and macro features of government institutions, such as the division of powers among branches of government. As Mazmanian and Sabatier (1984) pointed out, such gross operationalizations of government structure are rarely significant. They suggested a more careful delineation of institutional arrangements devoted to specific policy decisions. Furthermore, while Hofferbert (1974) stated that elite behavior is one of the most interesting, but least understood, stages of the policy process, he provided no further direction for incorporating elite behavior into policy analyses.

Hofferbert (1974) carefully explicated the relations among the different policy stages. Each stage directly affects the one preceding it. For instance, historical-geographic conditions directly affect socioeconomic conditions of the jurisdiction, and socioeconomic conditions directly affect mass political behavior. Stages not directly adjacent to each other indirectly affect each other. For instance, the socioeconomic composition of a jurisdiction indirectly affects elite behavior. Hofferbert's policy stages are cumulative and interactive. The lesson, as Mazmanian and Sabatier (1984, p. 464) pointed out, is "that partial information can be dangerous, or at least misleading." Examining just the interaction between socioeconomic variables and policy outputs at best captures a part of the policy story. Rather, in any analysis, each of the stages must be accounted for.

UNITS OF ANALYSIS

Unlike the other frameworks, the IAD and the Hofferbert frameworks maintain their flexibility and generality by leaving it up to the analyst to identify the unit of analysis. The setting that the analyst wants to examine and the questions that the analyst wants to address will determine the unit of analysis. Therefore, the unit of analysis can be almost anything: a family, a church, a city, a coastal fishery, an irrigation project, and so forth. The Hofferbert framework is almost as flexible. It can be applied to any formal public decisionmaking body, whether it is a university board of regents, a city council, or Congress.

The advocacy coalition framework is wedded to a specific unit of analysis—the policy subsystem; however, this unit too may be flexible. For instance, it could encompass a highly specific policy, such as stream riparian protection, or a broad policy area, such as watershed protection. Although each framework is grounded in a particular unit of analysis, there remains substantial flexibility in how the unit of analysis is applied in any particular instance.

LEVELS OF ANALYSIS

The concept of levels of analysis provides a richer, more meaningful, and eminently useful approach to understanding the myriad of activities that occur in relation to policymaking processes. Sometimes actors develop strategies and make choices about their daily activities within a given set of rules. The outcomes

that actors achieve, and the benefits and costs they experience, may at some point induce them to attempt to change the rules. They move to a collective-choice level of action to change the rules. Or actors may choose to reconstitute or design new collective-choice decision processes and may move to the constitutional-choice level to do so. All of these activities are part of, or at least feed into, policymaking processes.

Only the IAD framework pays explicit and careful attention to levels of analysis. Although the analyst can choose to keep the analysis focused on a single level, the other two levels are always implicitly included. If the analyst chooses to focus on an action situation exclusively at the operational level, the collective-choice, and perhaps the constitutional-choice, level is nevertheless included because the rules-in-use that structure the operational level originate from the other two levels. Or if an analyst chooses to focus on an action situation at the collective-choice level, the rules that structure the situation are from the collective-choice level, and outcomes from the operational level feedback into and influence collective-choice decisionmaking processes.

The remaining frameworks implicitly incorporate levels of action. The ACF implicitly incorporates levels of action, but it appears to be designed primarily to account for action at the collective-choice level; however, the other levels of action are not precluded. Coalitions, the heart of the ACF, are coalitions at the collective-choice level. Thus, a primary focus on collective-choice-level activity is implied. On the other hand, operational-level actions of individual members of coalitions feed into collective-choice activity. Members of advocacy coalitions, through operational-level activities, gain information and knowledge about the nature of the problems or issues that most concern them, and about the nature of other actors who are interested and active around the same issues. Day-to-day experiences provide members of advocacy coalitions with critical information that they in turn use to influence collective-choice processes. Nevertheless, the ACF is predominantly a collective-choice-level framework.

The Hofferbert framework does not pay explicit attention to levels of action either. Although the framework is devoted to structuring analyses of a collective-choice event, a policy adoption, most of the framework's variables occur at the operational level. The categories of variables, or stages, that are best developed and that dominate the framework are historical-geographic conditions and socioeconomic composition. Mass political behavior includes some collective-choice activities. Only the two least-developed categories of variables—governmental institutions and elite behavior—constitute collective-choice variables.

Frameworks set the stage for theory development. They establish general classes of variables and relationships among those variables, from which theories may be developed. The explicit frameworks found in this volume are varied in their breadth of scope, their comprehensiveness, and the variables posited. Although the IAD framework is sufficiently general so that it can encompass numerous situations and settings, not just policymaking processes, the ACF is more particular to policymaking, and the Hofferbert framework is specific to policy adoptions.

CONCLUSION

The contributions that constitute this volume should dispel many of the misunderstandings that surround the field of public policy. First, these contributions demonstrate that multiple and rigorous methods are used to explain public policymaking processes. Case studies are simply one tool among many that are used to develop explanations. The best of the theories creatively combine qualitative and quantitative approaches in developing rich and powerful explanations. Second, these contributions demonstrate that careful and sound theory development is a central part of the enterprise of explaining policy processes. Explanations of policymaking processes are not ad hoc. Third, several active research programs are in existence through which cumulation of knowledge is occurring. The field of policymaking is home to a number of top scholars who have had a substantial impact on the discipline.

Can the agenda setting and policy adoption theories fit within a single framework, and can the policy innovations models contribute much to the further development of these theories? That is, can the agenda setting and policy adoption framework, theories, and models follow the same path as that of Ostrom's framework, theories, and models, even though they have been engaged in by highly diverse scholars? My initial answer is, probably.

Blomquist argues unequivocally that policy innovations models have nothing to contribute to theories of the policy process. However, as Berry and Berry note, many of the methodological problems that Blomquist points to can readily be addressed, and as noted above, policy innovations models increasingly are adopting variables common among policy process theories. Furthermore, authors of two of the chapters call for comparative studies. Zahariadis states unconditionally that multiple-streams theory may be used in such comparisons, although he does not point to any such studies having been conducted. Adam and Kriesi are more cautious, but they too suggest desirability of comparative studies. "Future research thus needs to deal with the complex interactions of transnational contexts with country- and policy-specific elements to explain policy networks as dependent variable. This implies that future research should no longer aim at national-level generalizations across all domains, nor at issue-specific generalizations across countries, but needs to look at the combined impact of different types of determinants" (Chapter 5, this volume). That is, both external and internal determinants of policy networks need to be considered in explaining their structure and operation. Is this unlike modeling external and internal determinants of policy innovations among the American states?

Comparative policy process studies can explore a number of questions that diachronic studies cannot, such as the comparative performance of policy subsystems, or the effects of different governing systems on policy subsystem dynamics, or the combined impact of external and internal determinants on the structure and performance of policy subsystems. In fact, the comparative questions that could be

addressed are endless. What is important, as Ostrom argues, is that the questions be carefully derived from theories. Modeling must explicitly contribute to theory testing and development. More specifically, what do policy innovations models have to offer policy process theories? They offer well-developed methods and evidence that it is both possible and desirable to test parts of the theories using comparative policy models. What do policy process theories have to offer policy innovations modelers? A lifetime of work.

Over the past several years, the family resemblance among the policy process theories and comparative policy models has become more pronounced, to the point where they probably belong under a single roof, and that roof is the currently entitled advocacy coalitions framework. Note that the major explanatory variables appearing in each of the theories appear in the classes of variables constituting the framework. For instance, the policy network theory, with its emphasis on subsystem dynamics structured by governing institutions, fits well within the framework, particularly with the addition of coalition opportunity structures. Furthermore, the framework could spur additional development of some of the theories. For instance, the social constructions theory could benefit from more explicit attention to policy subsystems. Virtually every empirical study that Ingram, Schneider, and deLeon identify entails a single subsystem; however, very little of their theorizing includes subsystem structures and processes.

Admittedly, for the ACF to adequately embrace the theories, modifications would have to occur. Here are three: First an arrow should be drawn to directly connect relatively stable system parameters to policy subsystems. Both True et al. and Adam and Kriesi convincingly demonstrate that the constitutional structure directly affects policy subsystems structures and the types of policy change occurring. For True et al. the importance of parallel and serial information processing capabilities of governments is crucial and cannot be overstated, and the ACF, as it currently stands, cannot capture that. Second, the model of the individual should be generalized to include more dimensions than beliefs and resources in order to allow for the many varied models of decisionmaking. Third, it requires a name change. The framework can encompass more than just the advocacy coalitions theory, and its name should be revised to reflect that fact. The Policy Subsystem and Policy Change Framework would be more descriptive and perhaps more inviting to other policy scholars, even though it is not as catchy as ACF.

Finally, there is a contribution to this volume that has received little attention in this review: the chapter by Blomquist (Chapter 9, this volume). It received little direct attention because it does not easily fit within the structure of this chapter. Although it received little direct attention, I have drawn heavily on it to develop the criteria I have used in comparing frameworks, theories, and models. The chapter consists of reasoned, thoughtful assessments and critiques of a literature that has strongly impacted and influenced the development of the policy studies field. Blomquist has made his own critical contribution by pulling together such a wide range of work into such an easily accessible chapter.

NOTES

1. All of the contributions, but for one, provide an explanation of policymaking processes and thus fit comfortably with the commonly accepted notion of policymaking processes. The exception is the comparative state policy adoption literature, as presented by Berry and Berry and critically examined by Blomquist. The comparative state policy adoption literature focuses on policy adoptions and their timing, not on decisionmaking processes per se.

2. The Berrys reach the same conclusion for regional diffusion models. More realistic assumptions about states' interactions need to be adopted—analysts must engage in theory development.

3. Although, at times in their explanations, True et al. bring in variables commonly found in multiple-streams theory and the advocacy coalitions theory. For instance: "Budgets react to both endogenous and exogenous forces. The forces that might cause a change in the decision design may be external to the decisionmaker. Such influences may include changing levels of public attention, striking and compelling new information, or turnover in the composition of the decisionmaking body (say, when an election changes control of Congress, and when committee leaderships are rotated from one party to the other)."

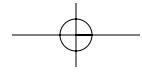
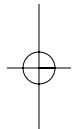
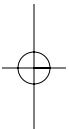
4. Or, as Jones (1994, p. 23) stated in discussing rational choice models, "Information is viewed as neutral and costly, and hence subject to the laws of declining marginal returns."

5. Kingdon's explanation of the proposal stream focuses not on where policies come from, but the environment in which they emerge and survive; however, little of that environment is ascribed to institutions. Kingdon focused on what makes policies catch on in certain communities at certain times, paying attention to how policies evolve and how they get combined and recombined (Kingdon 1995).

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11

Fostering the Development of Policy Theory

PAUL A. SABATIER

The first chapter of this book argued that in a field as complex as public policy, simplifying theories are an absolute necessity. Furthermore, those “lenses” through which the world is viewed should be explicit rather than implicit. Each of the next chapters presented one such theory: (1) the institutional analysis and development variant of institutional rational choice, (2) the multiple-streams framework, (3) a social constructionist framework, (4) a policy network approach, (5) the punctuated equilibrium framework, (6) the advocacy coalition framework, (7) the policy diffusion framework, and (8) a related set of frameworks used in large-*N* comparative policy studies. In Chapter 10, Edella Schlager compared and evaluated the frameworks using a variety of criteria.

In this chapter, I would first like to briefly review the current status of policy theory and then suggest several guidelines for improving it. In my view, most of the frameworks discussed in this book are relatively promising general frameworks, but they need to be developed into more logically coherent and “denser” theoretical frameworks and, eventually, into fully developed theories. The basic strategy in this chapter is to use the two frameworks that have developed the most since the mid-1980s—institutional analysis and development and the advocacy coalition framework—in an effort to discern fruitful guidelines for theoretical development.

THEORIES, FRAMEWORKS, AND MODELS

A theory is a logically related set of propositions that seeks to explain a fairly general set of phenomena. The criteria by which a scientific theory should be judged are reasonably clear (Lave and March 1975, 59–73; King, Keohane, and Verba 1994, 99–113):

1. It should be logically coherent. The major terms should be clearly defined and the major relationships should be logically consistent. Without coherence, falsifiability is problematic and the implications of a set of propositions are unclear.
2. It should have clear causal drivers and a sense of causal process. Scientific theories are causal theories that seek to explain how certain patterns of phenomena have come about. They should identify the critical causal drivers—what is assumed to be fundamentally moving events within the system—and then the processes or mechanisms by which those drivers affect other variables. One of the fundamental shortcomings of many frameworks in policy studies—including Lowi's arenas of power and the stages heuristics of Jones (1970)—is that they fail to specify causal drivers and processes.
3. Some of the major propositions should be empirically falsifiable. Falsifiability is what distinguishes science from other fields of human knowledge. To the extent that those propositions are logically related to others, the validity of untested aspects of the theory can also be assessed.
4. The intended scope of the theory should be clear and relatively broad, although it can clearly change over time.
5. The theory should be “fertile”; that is, it should (1) give rise to nonobvious implications, preferably beyond its original scope, and (2) produce a relatively large number of interesting predictions per assumption.

Note that the third and fifth—and even the fourth—criteria are heavily dependent upon the first. To the extent that criteria 1, 2, and 3 are logically related, invalidating criterion 1 has serious implications for criteria 2 and 3. In addition, a logically coherent set of propositions is much more likely to give rise to nonobvious implications,¹ and in the process, the scope of the theory is likely to be expanded or contracted. I stress logical coherence as a critical aspect of scientific theories because it is a point that some authors (e.g., Hill 1997) neglect completely.

Both the introductory chapter of this book and Edella Schlager's chapter rely upon the distinctions made by Elinor Ostrom among frameworks, theories, and models. A conceptual framework identifies a set of variables and relationships that should be examined to explain a set of phenomena. A framework can provide anything from a skeletal set of variables (or variable sets) to something as extensive as a paradigm. It need not specify the direction of relationships nor identify critical hypotheses, although it may do so. A theory provides a denser and more logically coherent set of relationships, including direction and hypotheses, that self-consciously seek to explain a set of phenomena. It applies values to some of the variables and usually specifies how relationships may vary, depending upon the values of critical variables. Numerous theories may be

consistent with a general conceptual framework. A model is a representation of a specific situation. It is usually much narrower in scope than the relevant conceptual framework and theory, and it should contain specific assumptions about the values of critical variables and the nature of specific relationships. Ideally, it is mathematical. In my view, frameworks, theories, and models can be conceptualized as operating along a continuum of increasing logical interconnectedness and specificity of values and relationships, but decreasing scope.²

For example, the principal-agent literature in political science can be seen as a rather minimal conceptual framework identifying the relationships between principals and agents in institutional settings as its scope. There are also a number of models of the effects of specific interventions by principals on the behavior of specific sets of agents (e.g., Wood and Waterman 1991, 1994; Jenkins-Smith et al. 1991). However, despite the early efforts of Moe (1984), there is nothing yet resembling a theory—at least in political science. Such a theory would have to identify the goal structure, the information assumptions, and the other resources available to both principals and agents, as well as to identify the relevant institutional and other contextual variables, and to provide hypotheses about what strategies by principals are likely to be effective, null, and counterproductive.³

Most theoretical constructions in policy studies would qualify as frameworks. There are also numerous models. This chapter seeks to identify a set of guidelines for turning minimal frameworks into more extensive ones and, eventually, into theories.

PRESENT STATUS OF POLICY THEORY

With respect to the status of positive theories of the policy process, I agree with Schlager's (1997, 14) contention that the field is not a wasteland but is instead characterized by "mountain islands of theoretical structure, intermingled with, and occasionally attached together by foothills of shared methods and concepts, and empirical work, all of which is surrounded by oceans of descriptive work not attached to any mountain of theory."

The most impressive mountain is, of course, institutional rational choice or "actor-centered institutionalism" (Shepsle 1989; Scharpf 1997). The critical arguments are that (1) humans are intendedly rational, (2) their behavior is strongly influenced by institutional rules, and (3) they seek to influence institutional rules to alter others' behavior. Adherents include Chubb and Moe (1990) and Schneider et al. (1997) on school choice, Kagan (1978) and Scholz (1984) on regulatory compliance, Scharpf (1997) on European macroeconomic policy, Shepsle and Weingast (1987) and McCubbins and Sullivan (1987) on congressional policymaking, and a host of scholars on administrative decisionmaking (Bendor, Taylor, and Van Gaalen 1987; Knott and Miller 1987; Miller 1992). At a minimum, these authors share a conceptual framework. In most cases, they have been developing

theories of behavior in different institutional settings and several models within each of those theories and have been testing them over a number of years.

Within the institutional rational-choice tradition, the most impressive body of work relevant to policy studies is that of Elinor Ostrom and her colleagues (see Chapter 2 in this book for a summary). Her institutional analysis and development (IAD) framework is probably as close to a “covering theory” as we have in the social sciences. Her theory applying the IAD framework to the management of common property resources (Ostrom 1990; Ostrom, Schroeder, and Wynne 1993; Ostrom, Gardner, and Walker 1994; Crawford and Ostrom 1995) is clearly one of the most important theoretical developments in political science since the early 1980s. It has attracted a half million dollars in funding annually from the National Science Foundation and other agencies, resulting in an impressive series of empirical tests in both field and laboratory settings. The end result has been about thirty books applying the IAD since 1998 (see Chapter 2 in this book).

I also agree with Schlager (1997) that the advocacy coalition framework (ACF) developed by Hank Jenkins-Smith and myself—and critically applied in at least fifty-four settings by different scholars since 1998—is a viable and coherent research program. In fact, I would contend that the ACF has evolved from a fairly complex theoretical framework in 1988 to a much denser and more logically coherent framework and/or theory for which several of the major holes are in the process of being filled (see Chapter 7 in this book).

Both of these research programs would fit Lakatos's (1978) characterization of “progressive”; that is, they are being used by a variety of scholars and seem to be developing increasing coherence and scope. Of the other frameworks discussed in this book, punctuated equilibria, social constructionism, policy networks, and policy diffusion should also be characterized as progressive. Therefore, they should provide clues about how to move from relatively simple frameworks to much more developed frameworks and theories.

THE ORIGINS AND DEVELOPMENT OF THEORIES

The development (or elaboration) of a theory needs to be distinguished from its verification. The first deals with the generation of a set of logically interrelated set of propositions—whatever the source—whereas the second deals with the empirical testing of the validity of some of those propositions. This discussion is concerned primarily with theory development, although one of the critical arguments is that development and verification should, of course, be linked in an iterative process.

SCENARIOS OF THEORY DEVELOPMENT

Traditionally, scholars have distinguished two processes of theory development: inductive and deductive (see, for example, Reynolds 1971). Both of these pure types strike me as being of limited value.

According to the inductive conception of theory development, theories arise out of the accumulation of “facts” from a variety of empirical studies; these facts are then synthesized into a set of coherent, more abstract propositions. The central problem with this conception is that it starts from a positivist view of perception that assumes we can observe facts unmediated by prior beliefs or presuppositions. This view has been subjected to some devastating critiques since the 1970s (Kuhn 1970; Brown 1977; Hawkesworth 1992). At any rate, I shall assume that when seeking to understand any reasonably complex set of phenomena—and public policy processes are clearly complex—the observer must begin with a set of presuppositions concerning the entities worthy of notice, their characteristics that are worth remembering, and the types of relationships among entities that are worth observing. In other words, I assume that perception of complex phenomena is mediated by a set of presuppositions constituting at least a simple conceptual framework. The problem with much of policy research is that these conceptual frameworks are often implicit rather than explicit and are thus not subjected to any serious scrutiny by the author or by many readers. In sum, a purely inductive approach to theory development in public policy strikes me as illusory.

In contrast, in a deductive (or axiomatic) conception of theory development, the author begins with a set of fundamental axioms and definitions and logically derives from them a more elaborate set of propositions, some of which are falsifiable. This conception is certainly consistent with a presuppositionist philosophy of science, and it may occasionally happen—game theory being one example (von Neumann and Morgenstern 1944). However, the pure form of axiomatic theory development assumes that theories are developed in a vacuum, unconstrained by perceived regularities in portions of the phenomena of interest. That assumption strikes me as unlikely to be correct, because anyone proposing a theory typically has twenty to fifty years of experience in a given field, and therefore, some of the propositions are likely to be inductively derived.

More likely than either a pure inductivist or a pure deductivist process is a third scenario: a scholar becomes dissatisfied with an existing conceptual framework or body of theory, develops an alternative framework (or initial theory) to address its shortcomings, and then progressively elaborates that framework until it becomes a more fully developed theory over time. This is, I think, the case for both IAD and ACF and, to lesser extent, punctuated equilibrium and diffusion theory.

Ostrom began with a general appreciation of the theoretical elegance and potential explanatory power of microeconomic theories applied to political behavior, but she was profoundly disturbed by proponents’ general neglect of the role of institutions (Ostrom 1986). Public choice theorists tended to implicitly assume a set of institutional arrangements without recognizing that those arrangements were subject to manipulation and that the same individual would behave differently in different institutional settings. With respect to the more limited case of the management of common property resources, Ostrom was disturbed by Hardin’s (1968) analysis of the “tragedy of the commons.” It

implicitly assumed a given set of institutional rules—particularly, that local herders could not communicate with each other and themselves reach agreements to regulate access to the common property resource—and thus that intervention by external agents was necessary to regulate and enforce access restrictions (Ostrom 1990). The basic IAD framework was initially elaborated in Kiser and Ostrom (1982) and was applied shortly thereafter to the management of common property resources in Bill Blomquist's dissertation research on groundwater basins in Southern California (Ostrom 1990).

Likewise, the advocacy coalition framework grew directly out of my dissatisfaction with (1) the bifurcation of implementation studies in the early 1980s into top-down and bottom-up perspectives, (2) most policy scholars' neglect of the role of technical information in the policy process, and (3) the overly simplistic model of the individual in most rational-choice approaches to policy (Sabatier 1986). The ACF was an effort to develop a new synthesis combining the best features of both implementation perspectives, together with Carol Weiss's (1977) insights on the long-term "enlightenment function of policy research" and a model of perception drawn largely from social psychology. It was strengthened when my intuitions concerning the factors affecting the role of scientific information were independently confirmed by the experience of Hank Jenkins-Smith (1988) as a policy analyst in Washington. The ACF was initially presented at a Rotterdam conference in 1983, was revised for several years, and was then published for the first time in the late 1980s (Sabatier 1986, 1987, 1988).

Both the IAD and the ACF have, however, undergone considerable revision since their original publication. Both started out as fairly extensive conceptual frameworks (Kiser and Ostrom 1982; Sabatier 1988). The IAD has evolved into both a more elaborate framework for understanding virtually all of social behavior and a much more elaborate theory of the management of common property resources (see Chapter 2 in this book). The ACF has become a much more integrated framework and/or theory for understanding long-term policy change in modern societies (see Chapter 7 in this book).

Both punctuated equilibrium and diffusion frameworks emerged out of dissatisfaction with significant portions of the American policy literature of the early 1970s. Punctuated equilibrium came from critiques of incrementalist policy frameworks (Lindblom 1959; Wildavsky 1964), while diffusion frameworks arose out of critiques of the large-*N* comparative policy studies (Hofferbert 1974), which dealt only with within-state variables.

FROM MODEST FRAMEWORKS TO MORE EXTENSIVE FRAMEWORKS AND/OR THEORIES

What are some of the reasons why the IAD and ACF have evolved from fairly modest frameworks in the early/mid-1980s to much more extensive frameworks and/or theories today? Conversely, why has Kingdon's multiple-streams frame-

work—initially published at about the same time (1984, 1995)—attracted much less empirical testing and undergone much less elaboration.⁴ Following are some preliminary conclusions crafted in the form of guidelines for theory development.

Be Clear Enough to Be Proven Wrong. This guideline applies both to concepts and to proposed relationships (hypotheses). The basic argument is that we learn from our mistakes. Vague concepts and propositions are never proven wrong, and thus, little learning occurs. Without learning, there is little incentive to correct inconsistencies, to revise falsified relationships, or to elaborate the framework to fill serious voids.

Since its inception, for example, the ACF has defined an advocacy coalition as “a set of people from a variety of positions (elected and agency officials, interest group leaders, researchers) who share a particular belief system . . . and who show a non-trivial degree of coordinated activity over time” (Sabatier 1988, 139). In a 1995 article, Edella Schlager observed that all the empirical tests of the existence of coalitions by Jenkins-Smith and myself had focused simply on shared beliefs and thus had implicitly assumed that shared beliefs are a sufficient condition for coordinated behavior. Anyone remotely familiar with the literature on collective action (Olson 1965) realizes this assumption is patently false. As a result, my students and I have spent a lot of time seeking to define and operationalize different levels of coordination (Zafonte and Sabatier 1998), as well as addressing Schlager’s suggestions concerning the conditions conducive to greater coordination. Thus, the clear definition of an advocacy coalition plus its clear operationalization have led to a major effort to specify the problematic nature of coordinated behavior within the framework.

Clear, explicit hypotheses attract serious scrutiny by other scholars. Several people who regularly use the ACF in their graduate courses have indicated that the major reasons are that the ACF has always identified a number of explicit hypotheses and that the authors of the ACF seem willing to revise those hypotheses on the basis of solid empirical research. Along the same lines, in a review of Ostrom, Gardner, and Walker (1994), Jonathan Bendor (1995, 189) remarked that he found the evidence from testing game-theoretic hypotheses in laboratory settings to be more persuasive than the field studies precisely because the former involved quantitative predictions that could be more easily falsified (or supported) by the evidence.

Conversely, the multiple-streams framework has no explicit hypotheses and is so fluid in its structure and operationalization that falsification is difficult.⁵ Given the paucity of tests by other scholars, it is not surprising that Kingdon (1996) has found no need to make revisions.

Make the Concepts of the Framework/Theory as Abstract as Possible. The more abstract the concepts, the broader the scope of the framework or theory.

Broader propositions are more likely to be falsified in some situations and confirmed in others. That, in turn, should lead to the identification of intervening variables and/or conditional relationships, that is, to an elaboration of the theory. Broad scope plus clarity lead to error, which, in turn, produces revision and elaboration (Lave and March 1975, 42; King, Keohane, and Verba 1994).

Think Causal Process. What exactly are the mechanisms by which A affects B, which, in turn, affects C, and so on (Lave and March 1975, 40)? Thinking carefully about the steps in a causal process is one of the principal steps in going from general frameworks to denser, more logically interconnected theories. The failure to develop clear chains of causal relationships is probably one of the reasons that several policy frameworks that were popular in the 1970s—including Lowi's arenas of power and the large-*N* comparative policy studies of Hofferbert et al. no longer attract much attention.

Develop a Coherent Model of the Individual. One of the major reasons that neither Lowi nor Hofferbert et al. ever developed clear chains of causal processes is that neither framework ever really developed a model of the individual actor (see Chapter 9 in this book). Such a model should include the goals or rules fundamentally driving actors' behavior, their capacity to acquire and process information, their decision rules, and their politically relevant resources. Because policymaking is fundamentally done by human beings, it is extraordinarily difficult to develop much of a sense of process if the linchpin of the entire process—the individual (or corporate) human actor—is a “black box.”

One of the fundamental tasks confronting several frameworks of the policy process—including Kingdon's multiple-streams framework (see Chapter 3 in this book) and the diffusion framework of Berry and Berry (see Chapter 8 in this book)—is to develop a much more explicit and coherent model (or models) of the individual. Conversely, some of the most interesting differences between the initial versions of the IAD theory of common property management, more recent versions, the ACF, and the punctuated equilibrium framework of Jones et al. concern differences in their models of the individual (see Chapter 10 in this book; see also Jones 1994; Ostrom 1998).

Work on Internal Inconsistencies and Interconnections. This guideline is another of the fundamental tasks in going from minimal frameworks to much denser, internally consistent frameworks and theories. It usually involves both empirical work that identifies inconsistencies and anomalies followed by logical thinking about how to resolve them.

In the ACF, for example, the delineation of policy core beliefs—as opposed to deep core and secondary aspects—is critical because (1) policy core beliefs are one of the essential means of defining a coalition, (2) they are critical to distinguishing major (policy core) from minor (secondary aspects) policy change, and

(3) most of the original ACF hypotheses hinged on the distinction between policy core and secondary aspects. Yet the original versions of the ACF were unclear about whether the critical component of a policy core belief was (1) degree of abstraction or (2) scope. This ambiguity became critical when some of the research by Jenkins-Smith et al. (1991) on Outer Continental Shelf leasing identified very concrete beliefs—material self-interest operationalized as expanded leasing—to be the fundamental glue holding the proleasing coalition together. This finding led us to select subsystemwide scope dealing as a defining characteristic of policy core beliefs.⁶

Clarification of the policy core, in turn, led to the query: What are the defining characteristics of a subsystem? Again, this question was precipitated when several empirical research projects sought to apply the ACF to “subsystems” that were narrower in scope than traditional ones: landsat within science and technology, eutrophication within water pollution, and automotive pollution control within air pollution control (Thomas 1996; Loeber and Grin 1999; Sabatier, Zafonte, and Gjerde 1999). These led to a series of discussions resulting in a relatively clear set of necessary and sufficient conditions for the existence of a subsystem (see Chapter 7 of this book, as well as Zafonte and Sabatier 1998). These conditions, in turn, helped guide empirical research concerning the relative importance of shared beliefs and organizational interdependencies in determining coalition behavior within a set of partially overlapping subsystems related to San Francisco Bay water policy (Zafonte and Sabatier 1998). The end result is that the relationships among policy core beliefs, subsystems, advocacy coalitions, and policy change are much more extensive and much clearer today than they were in either the 1988 or the 1993 version of the ACF.

Develop a Long-Term Research Program Involving Both Theoretical Elaboration and Empirical Testing among a Network of Scholars. Of all the guidelines, this one is probably the most important. As we saw above, theoretical elaboration and empirical testing go hand in hand: empirical studies identify inconsistencies, areas in need of elaboration, and propositions that are probably invalid (at least for a set of cases). These should stimulate revision and elaboration of the theory. All of this takes time—at least a decade. For example, approximately 80–90 percent of Lin Ostrom’s scholarship since the mid-1980s has been related to the IAD. The same can be said of my focus on the ACF. It helps enormously if a group of scholars working in a variety of field settings become involved in the empirical applications and contribute to the theoretical revisions. However, it is probably also desirable if the original proponents of the framework continue to guide the overall research program so that the internal coherence of the theoretical framework is maintained over time.

Both Elinor Ostrom and I have been self-consciously pursuing such a strategy since the early 1980s. My perception is that John Kingdon has not. In both the

IAD and the ACF cases, the strategy has involved (1) the initial publication of the framework, (2) empirical research by the authors to critically apply the framework in a variety of settings, (3) explicit encouragement to other scholars to do the same in settings where they are expert, (4) a clear willingness to revise the framework on the basis of empirical research and logical analysis, and (5) the fostering of a network of scholars involved in a shared research program. Specific techniques for fostering such a network include (1) explicitly encouraging other scholars to critically apply the framework, (2) reviewing dissertations and conference papers of young scholars interested in the framework, (3) providing incentives (e.g., grant funds or publication outlets) to stimulate such interest, and (4) establishing newsletters, conferences, and other mechanisms as communication outlets for scholars interested in the framework.⁷

Use Multiple Theories If Possible. This is pretty standard advice (Platt 1964; Stinchcombe 1968; Loehle 1987). It involves both being knowledgeable about multiple theories and, when possible, applying several theories in empirical research. The advantages are, first, that this guideline provides some guarantee against assuming that a particular theory is the valid one. Second, it leads to an appreciation that different theories may have comparative advantages in different settings. Third, knowing other theories should make one much more sensitive to some of the implicit assumptions in one's favored theory. For example, much of the elaboration of the theory of the individual in the ACF has been the result of Edella Schlager's explicit comparisons of the IAD and the ACF.

NORMS AND INSTITUTIONAL INCENTIVES FOR IMPROVING THEORY

This chapter has suggested several guidelines for encouraging the development of denser and more coherent frameworks of the policy process. Yet I would like to second Schlager's (1997, 15) contention that advice and exhortation, although helpful, are not sufficient to improve the status of theory. We need to work on the institutional incentives affecting behavior. When it comes to research, there are at least two major types of incentives: funding and publication.

FUNDING

Funding of theoretically relevant policy research is less of a problem in the U.S. than in other Organization of Economic Cooperation and Development (OECD) countries.⁸ Although the National Science Foundation (NSF) does not have a policy studies program per se, many of its programs—including Political Science, Decision and Risk Management, and Law and Society—fund policy research, and the NSF usually requires funded proposals to pay serious attention to theoretical development. Many federal (and even some state) agencies—including Justice, Environmental Protection, Energy, International Development,

Defense, Agriculture, Transportation, Education, and Social Security—fund policy research. My experience with the Environmental Protection Agency's exploratory grants program has been that the peer review process is directly modeled on the NSF's and thus strongly encourages funded proposals to have a significant theoretical component. To the extent this is not the case with research programs in other agencies, attempts should be made to alter the review process and funding criteria. In Europe, on the other hand, the vast majority of policy research is funded by ministries and is very applied. The national funding agencies for basic social science—the Social Science Research Council in the U.K., the Centre National de Research Scientifique (CNRS) in France—are preoccupied with disciplinary research.

PUBLICATION

With respect to books, the series I used to edit for Westview Press on "Theoretical Lenses on Public Policy" was explicitly devoted to the improvement of theory and published a number of important books dealing with institutional rational choice (Ostrom, Schroeder, and Wynne 1993; Scharpf 1999) or ACF (Sabatier and Jenkins-Smith 1993). In addition, the series edited by James Alt and Doug North for Cambridge University Press on "The Political Economy of Institutions" is a centerpiece for work on institutional rational choice. I encourage the editors of other policy series to perhaps accord a little higher priority to the quality of theory in their publications.

The problem has been more serious with respect to journals. Although most of the general policy journals—the *Journal of Public Policy*, the *Journal of Policy Analysis and Management*, *Policy Sciences*, the *Journal of European Public Policy*—occasionally publish theoretical articles, most of their articles are not explicitly grounded in any body of theory. Fortunately, there has been a revolution at the *Policy Studies Journal*. When the Public Policy Section of the American Political Science Association became co-owner of the Policy Studies Organization in 2004 it appointed a new editor, Hank Jenkins-Smith, who is strongly committed to a more scientific journal explicitly devoted to encouraging theoretically relevant and methodologically sophisticated scholarship on the policy process by both American and European scholars. This should provide an institutional incentive necessary to accelerate the development of policy theory.

The fundamental change required is, however, attitudinal. This book assumes that (1) understanding something as complex as the policy process requires simplifying lenses that tell us what to look for and what to ignore and (2) those lenses should be explicit rather than implicit.⁹ Once those premises are accepted, the frameworks provided in this book should represent a preliminary set of lenses from which to choose. Hopefully, there will be sufficient progress in those (and other) frameworks so that, in five years or so, a third edition of this book will be warranted.

NOTES

1. For example, scholars like Popkin (1979) and Becker (1976) have taken the basic principles of microeconomic theory and derived implications far beyond the original scope of the theory. Some of those implications have been empirically verified, while others have not. It was the logical coherence of the theory, however, that allowed creative minds to wonder: If it applies to market transactions in Western countries, why not other aspects of human behavior?

2. This conclusion grew out of an e-mail exchange that I had with Lin Ostrom in the winter of 1996–1997, but I’m not sure that she would entirely agree. For informative, and reasonably consistent, discussions of the distinctions among frameworks, theories, and models, see Ostrom (1998), Ostrom, Gardner, and Walker (1994), Schlager (Chapter 9 of this book), and Scharpf (1997).

3. One of the most serious limitations of the principal-agent literature is its models of the agent. Much of this literature (e.g., Wood and Waterman 1994) has essentially no model of the agent. The agent is simply a passive receptor responding to stimuli from principals. Another strain follows Niskanen’s (1971) overly simplistic view that agents are simply budget maximizers; for critiques, see Downs (1967), Miller (1992), and Worsham, Eisner, and Ringquist (1997). At a minimum, any principal-agent analysis needs to start with clear and reasonably valid models of (1) the principals and (2) the agents.

4. Although Kingdon (1984) is cited by many people, I am aware of only one scholar—Nikolaos Zahariadis (1992, 1996)—who has actually critically applied the multiple-streams framework seriously (confirmed by Chapter 3 in this book). The framework itself has undergone only minor revision. Kingdon’s postscript in the 1996 edition contains no serious revisions. Zahariadis’s work provides evidence that the framework can be extended outside the United States and to situations that are less “ambiguous” and suggests two related hypotheses: (1) crises in the problem stream are conducive to searches for solutions specific to the problem, whereas (2) electoral mandates produce a search for doctrinal (general) solutions.

In contrast, the ACF has been seriously applied by scholars other than Sabatier and Jenkins-Smith in at least eighty-six Cases in twelve countries and has undergone at least a dozen significant revisions since 1988 (see Chapter 7 in this book). The IAD theory of common property management has also been seriously applied by several dozen scholars in numerous countries (see Schlager 1997 for a partial list) and has undergone quite substantial revision and elaboration (see Ostrom, Gardner, and Walker 1994; Ostrom 1998). As for citations, in 1996 multiple streams received about fifty-eight citations in the Social Science Citation Index, the ACF received about forty, and the IAD received well over 100.

5. In my view, the fundamental problems with the multiple-streams framework are that (1) it is unclear whether the dependent variable is the set of viable policy alternatives or the selection of an alternative; (2) the critical assumption of the independence of streams cannot be falsified, because Kingdon has never told us how to identify which actors and/or tasks are in which streams; and (3) the causal drivers are underspecified, in part because there are no clear models of the individual (except perhaps for legislators).

6. Unfortunately, this issue was still ambiguous in the concluding chapter of the 1993 book and was not really clarified until Sabatier (1998).

7. In virtually all of these areas, Lin Ostrom is the master and I'm the apprentice.

8. I just don't know the situation in European countries well enough to comment. I realize, of course, that arguing that research funding is not a major problem is considered a capital crime by most scholars.

9. This is, however, contingent upon a logically prior commitment to social science; that is, to developing general understandings of the policy process that are clear enough to be proven wrong. I have no problem with policy analysts who wish to provide advice to practitioners in specific situations or who wish to develop "intuitive" understandings of such situations. I would simply urge them to make those "intuitions" clear enough and general enough so that they become falsifiable.

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